

**510 General**

All plans for contracts, Sundry Sites, Reclamation, and photogrammetric mapping are created using the following established drafting standards. These standards apply to manually drafted plans and those prepared on Computer Aided Drafting and Design (CADD) equipment. Adherence to these standards is essential to ensure the uniformity of plans produced throughout the state.

**520 Standards and Symbols**

Division 5 (*Standard Symbols and Conventions*) includes the lines, patterns, and the symbols, commonly used in drafting plans. Included are comparisons of line weights for both rapidograph pens and CADD.

Division 5 also lists CADD cell names, the CADD line weight, CADD line code, CADD level, and CADD line color where applicable. The various geometric and design features that make up plans have been assigned to the 63 different CADD levels. Division 5 is arranged in level order, where all items are listed under the applicable level. These symbols and conventions are available to the CADD operator in the WAESTATE.CEL library.

CADD font 50 will be used for all text on PS&E plans, photogrammetric maps prepared on CADD with the exception that font 42 will be used where a shadow template would normally be used. An exception to the use of font 50 would be for small areas of a plan, i.e., roadway width text, distance ties, etc., where font 50 would be too large. Font 2 shall be used in these cases.

**530 WAESTATE.CEL Library (CADD)**

The most commonly used symbols, notes, legends, and patterns for CADD plan preparation are contained in the WAESTATE.CEL library. These conventions are located on specific CADD LEVELS.

The current CADD is set up is such, that the libraries will attach as the user logs into the system, they will always have the current library and all the changes as long as they use this set up.

**540 WAEDETAIL.CEL Library (CADD)**

Commonly used details which have been reviewed for compliance with department standards are contained in this library. The details have been drafted in a generic form and queued with question marks. The queues are to be edited using the information that fits the specific project design. These details may also be modified by the user to fit conditions not covered by the details in this library. Examples of details in the WAEDETAIL.CEL library are shown in Division 5-2 and CADD operators should become familiar with the details available.

Occasionally, a detail is too large to be made into a cell. When this occurs, the detail is composed of two cell units A and B (with the name of the cell and its description noted) and the user needs to place them together in the drawing as needed.

**550 Revision Process to CADD Standard/Procedures**

This revision process provides the opportunity for department-wide participation in the development, review, and implementation of new procedures and standards to be used in plan preparation. This process may also use to improve or revise existing procedures and standards.

This division outlines this process in the form of a flow diagram, prior to symbol listing. Once an idea has been developed to the satisfaction of the originator's work unit (e.g., region plans office, etc.), this process is used to share the idea statewide and implement it as a standard procedure. The new flow chart, takes in the participation of charter teams that were formed within the CADD community for implementation and review. All changes and revisions MUST still be approved through the Olympia Service Center Plans Branch.

The Plans Branch manages the contents of the WAESTATE.CEL, WAMSTATE.CEL, WAEDetail.CEL and WAMDetail.CEL libraries and SEED2DM.DGN, SEED2D.DGN, SEED3DM.DGN AND SEED3D.DGN. Any questions concerning its contents, suggested changes, or additions should be addressed to the Olympia Service Center Plans Branch

Although this appendix specifically references CAD, this procedure may be used to share other ideas relating to plan preparation.

## **560 Design File Guidelines for CADD Operators**

### **560.01 General**

This chapter specifically addresses the CADD standards and procedures used to prepare the contract, sundry site, and right of way plans. Plans should be representative of those shown in this manual. Drafting should be neat and clear so there is no question as to the presentation. A review of half-size sheets is recommended to find drafting flaws (a contractor reads contract plans at this size). Common drafting problems found are: text placed on top of other text, text placed on top of lines, leader lines that cross (not definitive), and lines that extend beyond match lines.

### **560.02 Creating a New File**

#### **Name**

The name you choose for the design file must comply with Windows NT file naming conventions. Design files have the extension of .DGN, cell libraries have .CEL, etc.

#### **Seed File**

The Seed File used by WSDOT for creating new design files contains the working units, Global Origin, attributes, saved views, and documentation sheet required for department plans. The Seed File used to create new design files is ESEED.DGN.

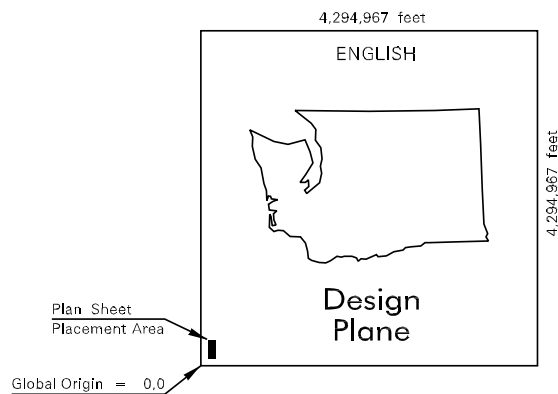
#### **Working Units**

The MicroStation Working Units used for all CADD files used in WSDOT for preparing PS&E and Right of Way plans are to include the following working units parameters:

Right of Way plans and English plans:

Working Units	4,294,967 FT square
Master Units:	FT
Sub Units:	TH
Sub Units per Master Unit:	1000
Positional Units per Sub Unit:	1

The Global Origin is located at the lower left corner of the design plane (GO=0,0), where XY=0,0. As you can see in Figure 1, the state of Washington fits quite nicely within this area. The graphic elements can be placed accurately to the nearest 1/1000th of a foot respectively.



*Figure 1*

### **Documentation Sheet**

A Documentation Sheet is placed in each seed file for the operator to fill out when starting a design file. It is the responsibility of this operator and any other operator working in this file now, or in the future, to keep this information up to date. It is the only source of information to the operator detailing how this file is structured and how it relates to other design files within the design project.

### **Saved Views**

Once a Documentation Sheet is placed, two saved views are created. These are PLOT30 and DOC. PLOT30 is a view saved of the file documentation sheet location, while DOC is another view of the same area but blown up for clarity and ease of reading the sheet on the screen.

## **560.03 File Documentation**

### **Why Have It**

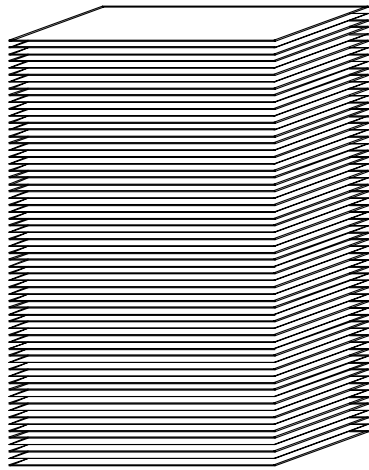
No one likes having to “fill out the paperwork,” but without it, no one other than the creator of the file would have any idea of how the file was constructed or how it related to any other files. Each design file has a file documentation sheet, located in Plot Location 30, to be filled out at the creation of a new file. It is the responsibility of the user creating this new file to initially fill out the sheet. Furthermore, it is the responsibility of each CADD user who modifies the file in any way to update the file documentation.

## **560.04 Levels**

### **What They Are**

Levels are like “clear overlays” (see Figure 2). Each design file contains 63 levels each overlaying the other. They are assigned by number 1 through 63. All of the design information is put on different levels.

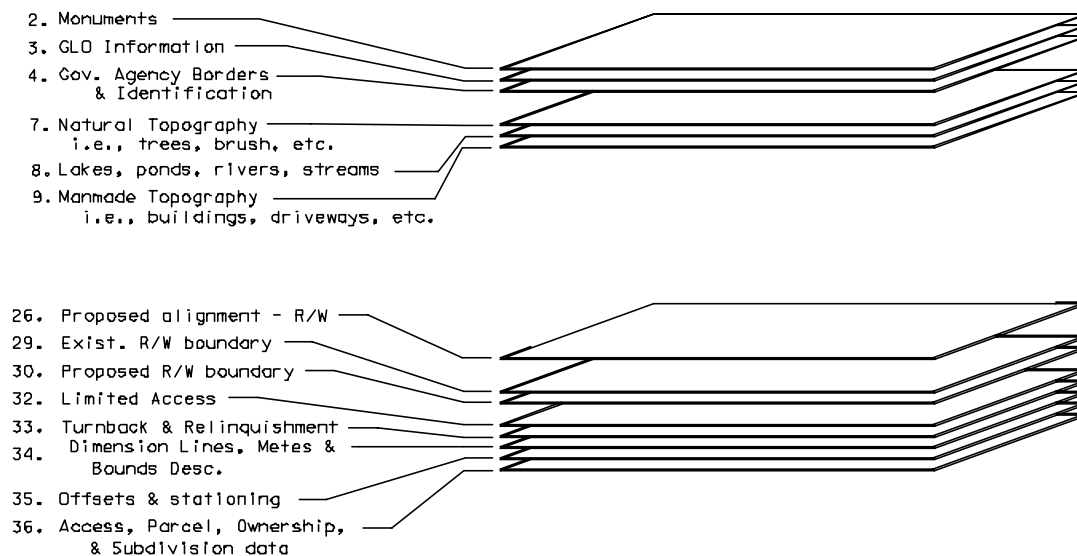
## 63 LEVELS



**Figure 2**

Information such as proposed highway alignment is drawn on level 28, proposed utilities on level 40 and proposed guardrail on level 42. The operator can produce different types of plans by turning these levels on and off, just like placing different clear overlays together (see example in Figure 3).

### Levels for R/W Plan Sheet



**Figure 3**

### Use of Unassigned Levels

Occasionally, data must be placed on a level other than those listed in the *Plans Preparation Manual*, Standard Symbols and Conventions. There are a few unassigned levels for this purpose. The operator must make sure that no other information will be in conflict when using these levels.

An example of this would be if the operator needed to break out an intersection from the rest of the alignment to be plotted at a greater scale, and that the line styles, text, and cells were too large to work around. The operator could then assign a copy of these cells, line styles, and text on this breakout at a different scale using an unassigned level. Once placed, the levels of information which were too large could then be turned off.

### Setting the Plotting Scale

Before placing data in the newly created design file, the operator must first set the plotting scale to the standard scale of (1"=50'). This is done using the WSDOT Pull-down menu, and selecting Scale. The operator then picks the appropriate scale. This stores the selected plot scale into a type 66 element in the design file. MDL applications use this scale factor when placing some text, cells, and patterns. Not more than one scale factor should be used in any one design file. To maintain compatibility with older files the operator may set the scale to match that of the older files.

## 560.05 What Goes Where

### Sheet Borders

Sheet borders are placed in the design file by use of the PLACE PLANSHEET command selected from the WSDOT menu. This command places plan sheets in a reserved area of the design file. A description of this area in coordinate terms would be: (English XY=100000,100000 and XY=110150,130250). Data placed by COGO, CAiCE, etc., should be at coordinates greater than these so no conflict arises. An automatic plotting macro on the WSDOT Menu, called PLOTVIEW recognizes this reserved area and looks there for the requested sheets to plot.

### Data for Sheets Only

Data placed directly on the plan sheet should be that which relates to the sheet border alone. Information such as match lines, curve data blocks, scale bars, notes, datum symbols, etc., should be placed within the sheet borders. To further aid in this process, the WSDOT menu has a pulldown menu for Base Map items and Sheet file items.

## 560.06 Reference Files

### Reference File Data

Data that relates to the alignment, right of way, etc., should be placed at actual ground coordinates in a design file. All information should be placed where it belongs by coordinates and on the appropriate level.

### Fonts/Text

Text is placed in a design file with different fonts or style of text. Standard fonts for use in preparing PS&E and right of way plans are 2, 42, and 50. All others are not standard. It may be necessary to use non-standard fonts to maintain the formatting of information imported from other applications. For example an imported Excel spreadsheet may require certain True Type fonts in order to appear correctly.

**Font 50** is to be used for most information. **Font 2** is to be used only in places where font 50 cannot fit (e.g., dimensioning the width of roadway). Most often Font 2 will fit better.

**Font 42** is used for names of cities, towns, interchanges, and subdivisions, waterways. Sometimes, other fonts come into the design file from foreign sources. Cartography uses special fonts when preparing Quad Maps. We use these Quad Maps in preparing Vicinity Maps. Because the fonts are not the same as our standards does not mean we have to change them just for a Vicinity Map as long as their appearance is acceptable.

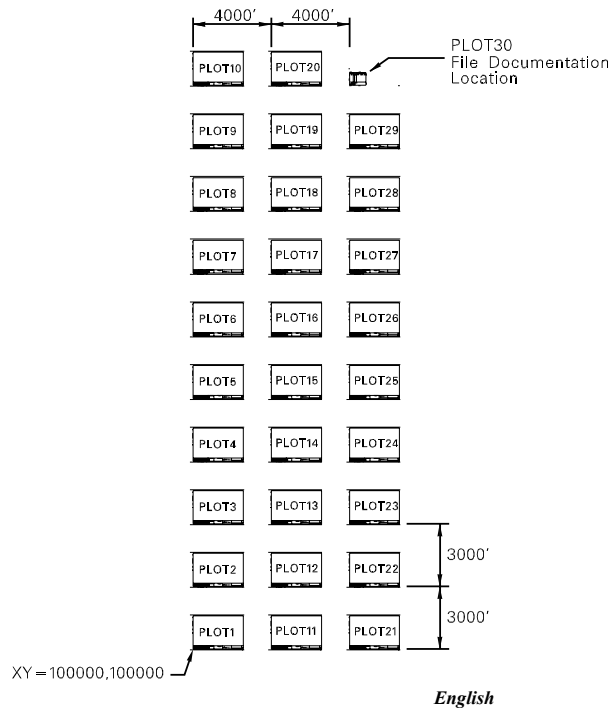
The table below shows the relationship between the plotted size of the text and the size of the text when measured in MicroStation at the sheet location.

ENGLISH	
<u>inches</u>	<u>feet</u>
.05	10
.06	12
.07	14
.09	18
.10	20
.125	25
.175	35

The rule of thumb is that text plotted at (English .05 and .06) must be all capital letters so the contract plans can be read easily. Text plotted at (English .07 or greater) can be upper and lower case letters. Using upper and lower case letters can be of benefit, especially when all capital letters can be used to emphasize something.

### Placing Plan Sheets

Figure 1 shows the location of the plan sheet placement area in relation to the entire design plane. Figure 4 shows the position of each sheet within the plan sheet placement area. The automated plotting program PLOTVIEW plots sheets from this reserved area. PLOT30 is reserved in every design file for the File Documentation Sheet.



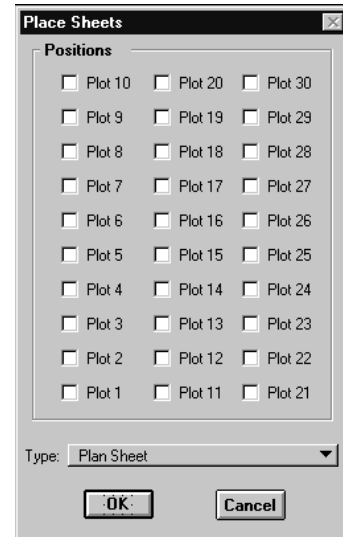
**Figure 4**

Before placing sheets, make sure that the appropriate cell library is attached to the design file. Use WAESTATE.CEL for English plan sheets. Sheets are placed in the proper locations with the PLACE SHEETS command found on the WSDOT pull-down menu.

This command brings up the Place Sheets dialog box.

It has a section with check boxes for each standard sheet location, PLOT1 through PLOT30. There is also a pop-up menu which lists all the available plan sheet types.

The user should first pick the type of sheet from this menu. Once this is done the locations for this type of sheet may be selected by clicking on the boxes for the desired sheet locations. To unselect a location simply click on that box again. To leave the Place Sheets command without placing any sheets just click the Cancel button. To actually place the sheets click on the Ok button. The screen will now show each plan being placed. When the sheets are all placed an alert box will ask “Do you want to place more sheets?”. If more sheets or different styles of sheets are needed the user answers Yes and the Place Sheets dialog will reappear allowing other sheets to be placed. The user should answer no to exit the command.



The PLACE SHEETS command places the selected sheet cell from the cell library in the correct PLOT location, places a PLOTx number in the left margin of the plan sheet, and saves a view of PLOTx. This is a good time to rename the saved view description to something meaningful, like: PLOT1, R1 Roadway Section.

### **Saved Views**

Saved views are nothing more than saving a “camera” position above the design plane. You can have an infinite number of these cameras, each at different distances from the design plane, and each looking at different levels turned on. You can even rotate the camera for a different rotational view. The view, or “camera” position is then saved using the Saved View dialog box to enter the view name and description.

The viewname can only contain six characters and the view description up to 27 characters.

### **What is a Reference File?**

A reference file is any design file, usually a base plan, which can be attached to the active design file and displayed for reference only and not for modification. A reference attachment can be thought of as a window in the active design file through which portions of the reference file can be seen. The entire file may be attached as a “coincidental” reference which includes the entire design plane. Each coordinate in a coincidental reference overlays the same coordinate in the active file. Alternatively, and preferably, any saved view stored in the reference file may be selected when attaching it to the active design file thus limiting the elements displayed in the reference attachment to those which were visible in the saved view. A reference attachment created from a saved view can be scaled, rotated, and moved anywhere in the active file as it does not extend to the limits of the design plane.

## **560.07 Naming Conventions**

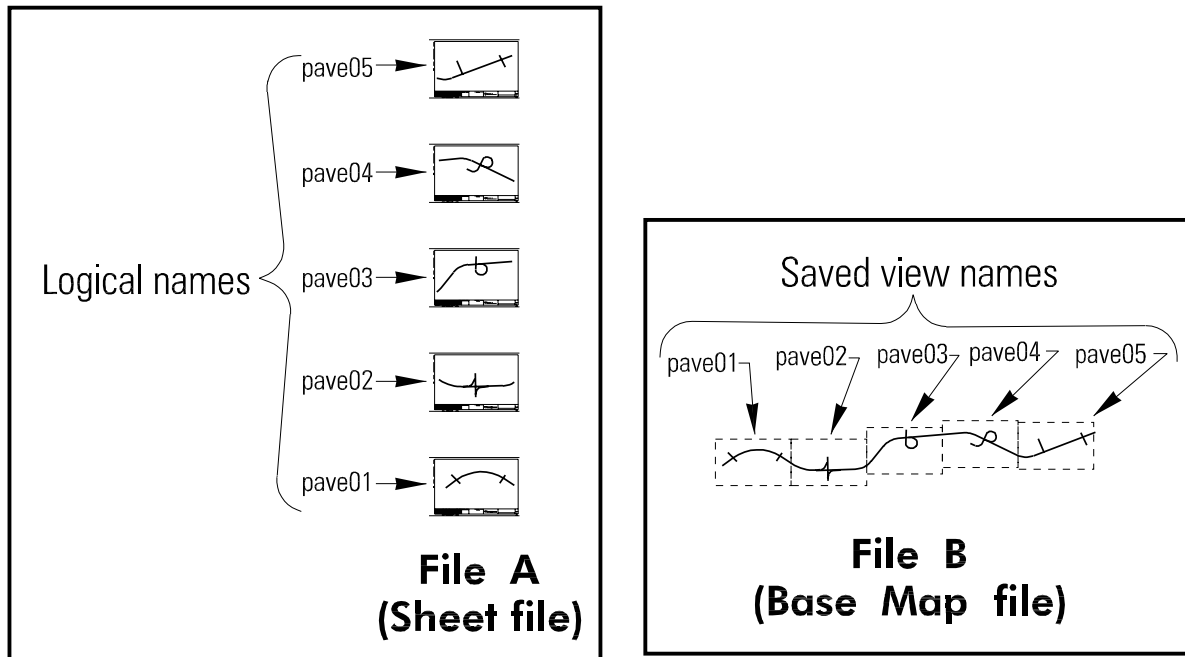
### **SAVED View Names**

SAVED View names for reference files are like any other saved view. The view name should be pertinent to the type of plan it will be used for, i.e. PAVE01 for a paving plan, and not some “off the wall” name like failing Seattle Sport’s Teams!!!!. Remember, other operators may be using this file at some other time.

### **Logical Names**

Logical names are those given when attaching a reference file to a sheet. The purpose of a logical name is to provide a simple and unique name for use in manipulation of the reference file attachment. It also

allows you to differentiate between multiple attachments from the same file. Figure 5 shows that file B.DGN (The Base Map file) is referenced to file A.DGN (The Sheet file) 5 times, once for each of 5 sheets. Without unique logical names there would be no way to attach B.DGN (the Base Map) multiple times. Like saved views, logical names can have up to six characters and up to 27 characters for a description.



*Figure 5*

Probably the most important thing to remember about the logical name is to make it the same as the saved view name being used for attachment. If the saved view name is PAVE01 then the logical name should be PAVE01. This makes it easier for the operator to go back and forth between manipulating the reference file on a sheet using the logical name, and going to the reference file, using the saved view name and pulling up the view to manipulate the elements in the reference file.

## **View Setup**

### **View Rotation**

After opening the Base Map file, consider how much the view needs to be rotated. Does the highway run south to north in your design? If so, it must be rotated somewhat to get it to go from left to right across the sheet when attached. Once you have decided how much to rotate the view, rotate it with the Rotate View command.

Note:

All rotation must be done in the base plan

### **Saving A View**

To save the view for attachment, use the Saved View dialog box to enter the view name and description.

You have now saved a “camera position” for this view.

Note:

You can set the view back “normal with the world” at any time by keying in **VI=TOP**. This puts the view back with North being up on the screen.

### **Attaching**

To attach a saved view to a sheet as a reference, bring the desired sheet up on screen. From the **Reference Files** tool box click on the **Attach Reference File** icon. This brings up a dialog box where you can select the file containing the view you wish to attach. Once the file is selected another dialog is displayed which lets you chose the view, set the logical name, add an optional description, and specify the Master: Reference scale factor.

Remember to name the logical the same as the saved view in the reference file.

When you are satisfied with your settings accept them by clicking **OK**. An outline of the saved view which is being referenced will attach to your cursor. Position the outline in the sheet and data point to accept. The reference will now appear.

The table below gives master: reference scale factors (English in parenthesis) necessary to create plan sheets at the desired 11" x 17" sheet scale.

<u><b>master:ref.</b></u>	<u><b>Sheet Scale</b></u>
(1:1)	(1"=200')
(2:1)	(1"=100')
(5:1)	(1"=40')

### **Levels**

The levels turned on in the view saved are those turned on when the view is attached as a reference file. If additional levels are required, the operator can turn them on using the reference file levels on icon off the reference file manipulations icon set. If additional reference file levels are turned on, the operator must go back to the reference file, call up the saved view, turn on the additional levels, delete the view, and resave it with the new levels turned on. It is NOT NECESSARY to reattach it to the sheet.

## **560.08 Clipping**

### **Clip Boundries**

When the view is attached to the sheet, there is usually a lot of extra stuff that is not needed. The clip boundary command trims all of this extra off the sheet. To define a reference file clipping boundary (the outside boundary of the displayed area), first place a fence with the Place Fence tool. In the list box in the Reference Files dialog box, select the reference file. From the dialog box's Tools menu, choose Clip Boundary. It is best to cut the boundry perpendicular to the roadways at an even station. The reference file will undraw itself and then redraw itself displaying only the area inside the fence. The limits of the reference file can be expanded n the same way. When expanding the limits it is usually a good idea to place a fence around a much larger area. Now just fence the desired area and reclip it using the reference file clip boundary command. The reference file clipping limits can be viewed by turning on Ref Boundaries in View Attributes.

### **Sheet Title-Strip Data**

Each sheet in a set of plans has a title strip along the bottom border. Information found there includes the contract name, sheet type, sheet reference number, sheet number, total number of sheets, federal aid project number, job number, contract number, and design team information.

This information is easily entered through the use of the Place Labels macro on the WSDOT pull-down menu. When invoked, a dialog box with fields for each item is presented to the user. The user just fills in the desired fields.

### **File (Save Settings)**

The Save Settings command is located in the File pull-down menu. It allows the operator to preserve settings in a design file between cadd sessions. Settings affected include view attributes, element attributes, active scale, active angle, locks, view arrangement, coordinate readout, etc. When opening a file, the initial state of these settings is the same as those last set while editing the file. If this is a newly created file the settings are those of the seed file used to create it. It is suggested that when saving these settings the operator should have views 1 and 5 open with the documentation sheet filling view 5 and the base map area or sheet plotting area (depending on whether it is a base map file or sheet file) filling view 1. This allows the operator to easily identify the file upon first opening it.

## **570 Bridge Site Data turn in Procedures**

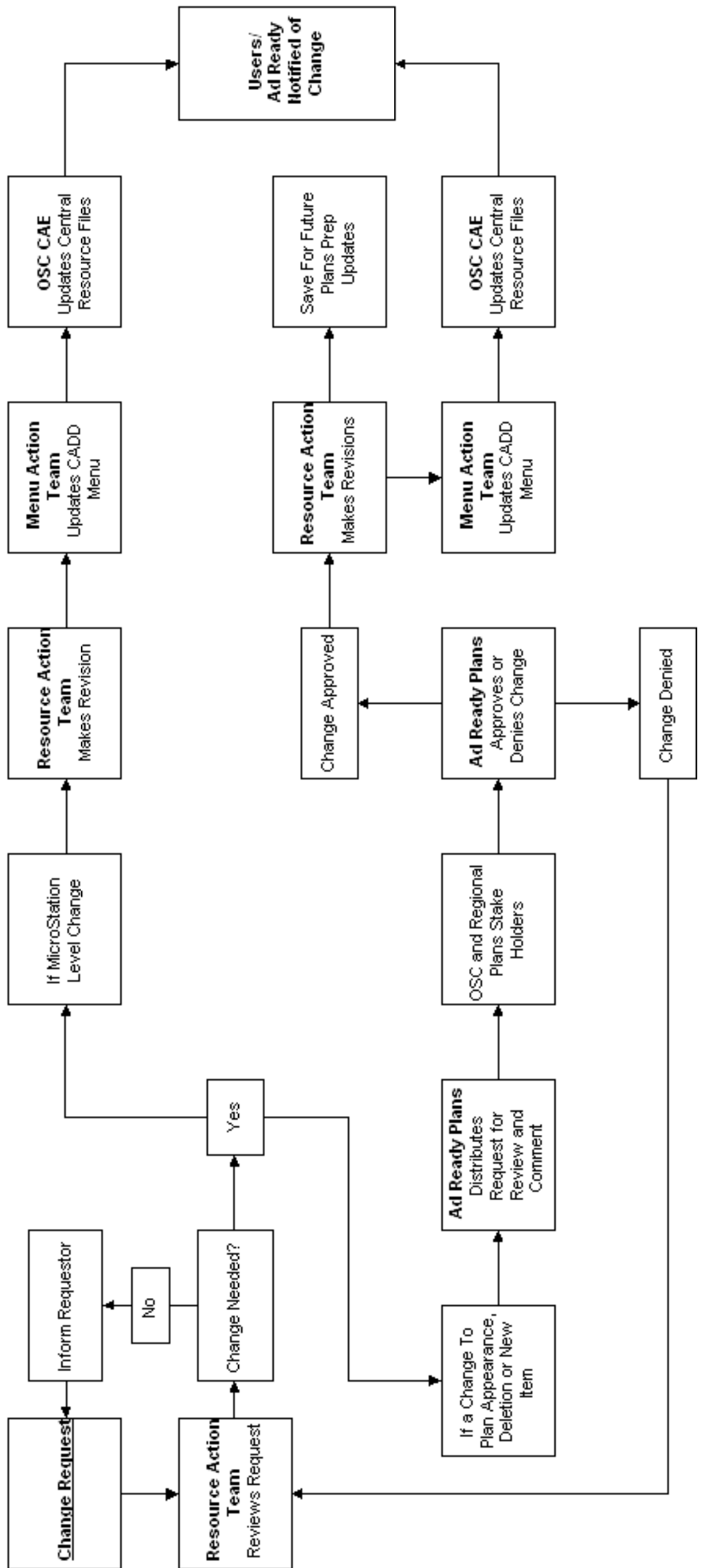
### **570.01 Microstation Base Map = Bridge Site Data**

These steps will direct an operator through the process of turning in data to the Bridge and Structures Office.

- Microstation Base map **2d only, no 3 d files of any kind**
- All base map levels according to Chapter 5 of this manual. This is important for our software to read your files.
- All levels turned on.
- All reference files merged in and reference file list empty (so we know that all of the information is there). Contact your Region Coordinator for this procedure.
- Run deldup and file fixer.
- Turn in at a scale of 1:1.
- Fill out the documentation sheet for any things that are different or empty levels.
- No sheets except the documentation sheet, we only want the alignment.

# Revision Process To CADD Resources

**BEGIN**



# STANDARD SYMBOLS AND CONVENTIONS

## ALPHABETICAL LISTING OF SYMBOLS

LEVEL	PAGE	SUBJECT
3	4	¼ Corners
3	5	¼ Section Line
53	65	Advanced Warning Sign
52	63	Existing
38	43	Area Inlet
13	17	Existing
28	33	Bearings
3	4	(GLO)
21	25	Highway Existing
60	74	Begin/End of Plan/Project Arrow Head w/ Construction Note
31	36	Biofiltration Swale
31	36	Existing
44	50	Bicycle Path
16	20	Existing
46	52	Bike Symbol
23	27	Existing
48	55	Bridge/Highway Structure
22	26	Existing
7	9	Brush
9	11	Building
60	77	CADD File Information
8	10	Canal
38	43	Catch Basin
13	17	Existing
53	65	CCTV (Closed Circuit Television) Camera
52	63	Existing
53	65	CCTV Controller Cabinet
52	63	Existing
27	32	Center Line Construction Plan
19	23	R/W Existing for PS&E
36	41	City Names
3	4	Closing Corners
53	65	Communications Hub
52	63	Existing
9	11	Concrete Slab
50	59	Conduit & Wiring
49	56	Existing
51	62	Construction Note Flag
37	42	Contour Index
5	7	Existing
37	42	Contour Intermediate
6	8	Existing

# STANDARD SYMBOLS AND CONVENTIONS

## ALPHABETICAL LISTING OF SYMBOLS

LEVEL	PAGE	SUBJECT
37	42	Contour Text
5	7	Existing
50	59	Control Cabinet
49	56	Existing
1	2	Control Point
2	3	Control Point Primary
4	6	Corporate Limit Line/Text
3	5	Corner Description Text
4	6	County Line/Text
60	75	Cross Reference Notes
46	52	Crosswalk Line
23	27	Existing
38	43	Culvert, Drain, Underdrain and Storm Sewer Pipe
13	17	Existing
44	50	Curb
16	20	Existing
60	77	Curve Data Blocks/Text
37	42	Cut/Fill Catch Slopes
38	43	Dam/Dike
8	10	Existing
3	5	Datum (N.A.D.)
9	11	Deck
60	74	Destination Arrow
10	13	Distance Tie
38	43	Ditch
13	17	Existing
13	17	Drain Line Existing
9	12	Drain Field
15	19	Easement/Permit Line
44	50	Edge of Lane
16	20	Edge of Roadways Existing
50	59	Emergency Pre-empt Detector
49	56	Existing
31	36	Environmental Resource Area Boundary
28	33	Equation Flag
21	25	Existing
42	48	Fence Line
9	11	Existing
9	11	Field Line
40	45	Fiber Optics
11	14	Existing
40	45	Fire Hydrant

# STANDARD SYMBOLS AND CONVENTIONS

## ALPHABETICAL LISTING OF SYMBOLS

LEVEL	PAGE	SUBJECT
11	14	Existing
7	9	Forest
4	6	Forest Boundary Line/Text
9	11	Foundation
40	45	Gas Pipe Line
11	14	Existing
9	12	Gas Tank
36	41	General Notes/Text
54	67	George Washington Silhouette
3	5	Government Lot ID
1	2	Grid Tick
42	48	Guardrail
23	27	Existing
46	52	Guide Post
23	27	Existing
53	65	HAR (Highway Advisory Radio) Controller Cabinet
52	63	Existing
53	65	HAR Sign
52	63	Existing
53	66	HAR Transmitter
52	64	Existing
9	11	Hedge Line Existing
17	21	Highway Alignment Existing
46	52	(HOV) Preferential
23	27	Existing
42	48	Impact Attenuator
23	27	Existing
50	60	Illumination Metal Single
49	56	Existing
50	59	Illumination Metal Double
49	56	Existing
50	60	Illumination Timber Single
49	57	Existing
50	60	Illumination Timber Double
49	56	Existing
50	61	Illumination Under Deck Luminarie
49	58	Existing
36	41	Interchange Names
38	43	Inlet
13	17	Existing
54	67	Interstate Shield
57	70	Irrigation Details

# STANDARD SYMBOLS AND CONVENTIONS

## ALPHABETICAL LISTING OF SYMBOLS

LEVEL	PAGE	SUBJECT
50	59	Junction Boxes Type 1,2 & 3
49	56	Existing
55	68	Landscape Details
8	10	Lake
8	10	Large Bodies of Water
NON	1	Leader Line
32	37	Limited Access Hachures
NON	1	Line Terminators
23	27	Light Pole
49	58	Luminarie Schedule
50	59	Loop Detectors Type 1&2
49	56	Existing
38	43	Manhole
13	17	Existing
60	75	Match Line
2	3	Monument
36	41	Names
53	65	NEMA 4X Junction Box
52	63	Existing
60	75	North Arrow
35	40	Offsets & Stationing
9	11	Orchard
40	45	Oil Pipe Line
11	14	Existing
9	12	Oil Tank
53	66	Overhead DMS
52	64	Existing
28	33	P.C.,P.T., P.I. Identification
28	33	P.I. to P.I. Dashed Line
36	41	Parcel Number
9	11	Patio
4	6	Park Boundary/Text
44	50	Paved Area
9	11	Existing
46	53	Pavement Line
44	50	Pedestrian Path
16	20	Existing
50	60	Pedestrian Signals
49	57	Existing
50	60	Pedestrian Push Button
49	57	Existing
50	60	Pedestrian Push Button Post

# STANDARD SYMBOLS AND CONVENTIONS

## ALPHABETICAL LISTING OF SYMBOLS

LEVEL	PAGE	SUBJECT
15	19	Permit Line
46	52	Preferential (HOV)
23	27	Existing
1	2	Photo Center
1	2	Photo Control Text
40	46	Pole Anchor
11	15	Existing
51	62	Pole Note
8	10	Pond
40	45	Power Line
11	14	Existing
60	77	Quantity Tabulation Note Flag
9	11	Quarry Boundary
9	12	Quarry Symbol
46	52	Railroad Crossing Symbol
23	27	Existing
16	20	Railroad Center Line
48	55	Railroad Structure
22	26	Existing
22	26	Railroad/Roadway Names
18	22	Railroad R/W
46	52	Raised Pavement Markers Type 1,2&3
23	27	Existing
3	3	Range Identification
3	3	Range Line/Text
4	6	Reservation Boundary Line/Text
8	10	Reservoir
42	48	Retaining Wall
9	12	Existing
20	24	R/W Boundary City, County, State
8	10	River
40	45	Sanitary Sewer
11	14	Existing
60	75	Scale Bars - English
53	65	ITS Cable Vault
52	63	Existing
53	65	ITS Pull Box
52	63	Existing
3	4	Section Corners
3	5	Section Line
54	67	Sequential Arrow Signs
50	61	Service Cabinet

# STANDARD SYMBOLS AND CONVENTIONS

## ALPHABETICAL LISTING OF SYMBOLS

LEVEL	PAGE	SUBJECT
49	57	Existing
60	73-77	Sheet Borders (see Following Section for Examples)
44	50	Shoulder Edge
53	66	Shoulder DMS
52	64	Existing
44	50	Sidewalk
9	12	Existing
54	67	Sign
23	27	Existing
54	67	Sign Note Flags (Removal, Relocation, Note)
50	61	Signal Pole PS, Type I&IV
49	58	Existing
50	61	Signal Poles II,III&V
49	58	Existing
50	61	Signal Vehicle Head
49	57	Existing
37	42	Spot Elevations/Text
6	8	Existing
28	33	SR Number Highway
54	67	SR Number Shield
4	6	State Boundary Line/Text
21	25	Stations
28	33	Station Equation Identification
38	43	Storm Sewer Line
13	17	Existing
31	36	Storm Water Treatment Area
46	52	Stop Line
23	27	Existing
8	10	Stream Scaleable/Non-Scaleable
46	52-53	Pavement Marking - Lines
23	27-28	Existing
39	44	Structure Note Flag
36	41	Subdivision Name
40	46	Telephone Booth
9	12	Existing
40	45	Telephone Cable
11	14	Existing
40	45	Television Cable Buried/Overhead
11	14	Existing
53	65	Terminal Cabinet
52	63	Existing
10	13	Text for Level 9

# STANDARD SYMBOLS AND CONVENTIONS

## ALPHABETICAL LISTING OF SYMBOLS

LEVEL	PAGE	SUBJECT
14	18	Text for Level 13
24	29	Text for Level 23
39	44	Text for Level 38
41	47	Text for Level 40
43	49	Text for Level 42
45	51	Text for Level 44
47	54	Text for Level 46
56	69	Text for Level 55
58	71	Text for Level 57
8	10	Tidal Shore Line
60	77	Total Curve Data Block/Text
36	41	Town Name
3	5	Township Identification
3	5	Township Line/Text
46	53	Traffic Arrows
23	28	Existing
42	48	Traffic Barrier
23	28	Existing
23	28	Traffic Button Existing
60	76	Traffic Movement Arrows
53	65	Transformer Cabinet
52	63	Existing
11	15	Transmission Towers Existing
7	9	Tree/Tree Line
48	55	Tunnel
22	26	Existing
53	66	Type 1&2 Signal Standards
52	64	Existing
13	17	Under Drain Line Existing
11	15	Utility Line (Multiple Run) Existing
40	46	Utility Pole
11	15	Existing
15	19	Utility R/W Line
54	67	U.S. Route Shield
40	46	Valve Box
11	15	Existing
9	11	Vineyard
53	65	DMS Controller Cabinet
52	63	Existing
40	45	Water Line
11	14	Existing
9	12	Water Tank

## **STANDARD SYMBOLS AND CONVENTIONS**

### **ALPHABETICAL LISTING OF SYMBOLS**

<b>LEVEL</b>	<b>PAGE</b>	<b>SUBJECT</b>
9	12	Well
31	36	Wetland Boundary
51	62	Wire Note Flag
60	75	WSDOT Logo
9	12	Yard Light Existing

# EDetails.CEL LIBRARY INDEX

DETAIL DESCRIPTION	SHEET	LAST REVISED	PAGE
How to Edit Details		November 1997	
RECLAMATION PLAN DETAILS			
Pit or Quarry Floor Detail	D1	July 1994	
ROADWAY SECTIONS			
Divided Multilane Highway Roadway Section	D11	November 1997	
Undivided Multilane Highway Roadway Section	D12	November 1997	
Subgrade Section	D15	November 1997	
BST Section	D16	November 1997	
Overlay Section	D19	November 1997	
Surfacing & Paving Section	D20	November 1997	
Base Course, Top Course & Paving Section	D21	November 1997	
Curbed Overlay Section	D22	July 1994	
Overlay Section - NO DITCH	D23	November 1997	
Overlay with Widening & Shoulder Reconstruction	D24	November 1997	
Overlay with Widening & Shoulder Reconstruction	D25	November 1997	
Overlay with Shoulder Slope Adjustment	D26	November 1997	
Widening for Channelization with Curb, Gutter & Sidewalk	D27	November 1997	
Bridge Deck Overlay	D31	November 1997	
SHOULDER SECTIONS			
Shoulder Widening	D41	November 1997	
Shoulder Widening for Channelization	D42	November 1997	
Shoulder Widening for Guardrail			
Less than 8.0' Shoulder	D43	July 01	
Shoulder is 8.0' or wider	D44	July 01	
Highway Overlay with New Curb			
New or Existing Guardrail	D48	July 2001	
Highway Overlay Existing Guardrail	D49	July 2001	
Highway Overlay New Guardrail	D50	July 2001	
Shoulder Rounding Detail	D51	November 1997	
Asphalt Concrete Curb Placement Detail	D52	July 1994	
Shoulder Design for Outside of Curve	D57	July 1994	
Shoulder Design for Inside of Curve	D58	July 1994	

## EDetails.CEL LIBRARY INDEX

DETAIL DESCRIPTION	SHEET	LAST REVISED	PAGE
<b>MEDIAN SECTIONS</b>			
Crowned Median Section	D61	November 1997	
Paved Depressed Median Section	D62	November 1997	
Median Treatment on Curves	D65	November 1997	
Median Treatment on Curves	D66	November 1997	
Unpaved Median Section	D69	November 1997	
Independent Alignment median Section	D71	November 1997	
<b>DITCH SECTIONS</b>			
Flat Bottom Ditch Section	D81	November 1997	
Rock Lined Ditch Section	D82	November 1997	
<b>APPROACHES</b>			
Road Approach Paving Detail	D91	November 1997	
Road Approach Paving Detail	D92	November 1997	
Approach Schedule	D95	July 1994	
Approach Detail & Schedule	D97	November 1997	
Approach Profile	D98	July 1994	
<b>INTERSECTIONS</b>			
Intersection Paving Detail (including shoulders)	D101	November 1997	
Intersection Paving Detail (excluding shoulders)	D102	November 1997	
Intersection Paving Detail	D103	November 1997	
Intersection Schedule	D117	July 1994	
<b>DRAINAGE DETAILS</b>			
Culvert Extension Detail	D124	November 1997	
Geotextile Wrapped Longitudinal Drain for Permeable Bases	D127	November 1997	
Geotextile Wrapped Longitudinal Edge Drain	D128	December 1997	
Prefabricated Geocomposite Longitudinal Edge Drain	D129	December 1997	

## EDETAILS.CEL LIBRARY INDEX

DETAIL DESCRIPTION	SHEET	LAST REVISED	PAGE
DRAINAGE DETAILS cont.			
Geotextile Wrapped Ditch Subgrade Drain	D130	December 1997	
Subgrade Drains	D131	December 1997	
Subgrade Drain Plan Layout	D132	December 1997	
Shoulder Drain Detail w/Inlet	D135	July 1994	
Shoulder Drain and Riprap Placement Detail (Catch Basin)	D136	November 1997	
Riprap Pad Detail	D140	November 1997	
Gabion Cribbing Detail	D143	November 1997	
Geotextile Lined Ditches and Stream Channels	D145	November 1997	
Geotextile Slope Protection	D146	November 1997	
PAVEMENT AND SIDEWALK TRANSITION SECTIONS			
Pavement Repair Detail	D161	November 1997	
Construction Joint Taper	D165	November 1997	
Grade Transition for Planing	D167	November 1997	
Butt Joint Planing Detail	D168	November 1997	
Bridge End Planing Detail	D169	November 1997	
Bridge End Sidewalk Detail	D171	November 1997	
GEOSYNTHETIC WALLS AND SLOPES			
(Optional) Geosynthetic Temporary Form System Detail	D225	November 1997	
Geosynthetic Wall Construction Procedure	D226	November 1997	
Temporary Geosynthetic Wall Section	D227	November 1997	
Permanent Geosynthetic Wall Section	D228	November 1997	
Geosynthetic Slope Construction Procedure	D229	November 1997	
Geosynthetic Slope Section	D230	November 1997	
Geosynthetic Slope Turf Reinforcement	D230A	November 1997	
Geosynthetic Slope Welded Wire	D230B	November 1997	
MISCELLANEOUS DETAILS			
Wildlife Reflectors	D235	November 1997	
Mailbox Turnout Detail	D241	November 1997	

## EDetails.CEL LIBRARY INDEX

DETAIL DESCRIPTION	DESIGN FILE LOCATION	LAST REVISED	PAGE
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### TEMPORARY EROSION SEDIMENT CONTROL

Quarry Spall Section	D250	July 2001	
Inlet & Basin Cover Detail	D251	July 2001	
Matting Overlap	D252	July 2001	
Erosion Control Blanket	D253	July 2001	
Temporary Bypass Pipe	D254	July 2001	
Gravel Sack Barrier	D255	July 2001	
Straw Bale Barrier	D256	July 2001	
Temporary Lining for Ponds	D257	July 2001	
Storm Drain Protection	D258	July 2001	

### R.V. DUMP STATION

R.V. Dump Station Island			
Detail B Section B-B, Notes	RVD1	November 1997	
R.V. Dump Station Plan View			
Detail A Section A-A, Section C-C	RVD2	November 1997	
Potable Water Station Plan View, Island Detail,			
Front Elevation, Detail C, Section C-C	RVD3	November 1997	
Control Module Box Detail, Power Supply Detail,			
Protective Post Detail, Section D-D	RVD4	November 1997	

### GUARDRAIL ANCHOR RETROFIT

Type 3 Retrofit for Thrie Beam Design A	RETA	July 1994	
Type 3 Retrofit for Thrie Beam Design B	RETB	July 1994	

### TRAFFIC CONTROL PLANS

Alternating One - Way Traffic	TCP1	September 2000	
Road Closed, Detour	TCP2	September 2000	
Road Closed with Diversion	TCP3	September 2000	
Single - Lane Closure		TCP4 September 2000	
Double - Lane Closure	TCP5	September 2000	
Temporary Off Ramp	TCP6	September 2000	
Lane Closure with Barrier	TCP7	September 2000	
Pedestrian Detour	TCP8	September 2000	

## EDETAILS.CEL LIBRARY INDEX

DETAIL DESCRIPTION	DESIGN FILE LOCATION	LAST REVISED	PAGE
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### TRAFFIC CONTROL PLANS

2 - Lane Paving Operations	TCP9	September 2000	
Shoulder Closure - High Volume/High Speed	TCP10	September 2000	
Shoulder Closure - Low Volume/Low Speed	TCP11	September 2000	
Work Beyond the Shoulder	TCP12	September 2000	
Temporary On-Ramp	TCP13	September 2000	
Temporary On-Ramp	TCP14	September 2000	

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION

LINE

{CADD CELL NAME}

WEIGHT	CODE
COLOR	LEVEL

## Non-Level Assigned Symbols

LINE TERMINATOR - {T}



LINE TERMINATOR, LEFT - {TL}



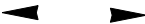
LINE TERMINATOR, RIGHT - {TR}



LINE TERMINATOR OPPOSING HEAD- {OPHEAD}



LINE TERMINATOR 2 - {OPTERM}



LEADER LINE



Leader line will be a weight of "1" unless  
otherwise shown

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION

LINE

{CADD CELL NAME}

WEIGHT	CODE
COLOR	LEVEL

## Level 01 Photogrammetric Controls

CONTROL POINT, HORIZ./VERT. - {4}

1
3
1



CONTROL POINT, VERTICAL - {3}

0
3
1



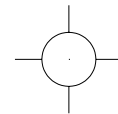
GRID TICK - {TIC}

1
1



PHOTO CENTER - {PHC}

1
1



TEXT FOR LEVEL 1 (PHOTO CONTROL)

0
1

0.10"



TARGET INFO

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION

LINE

{CADD CELL NAME}

WEIGHT	CODE
COLOR	LEVEL

## Level 02 Monuments

CONTROL POINT, PRIMARY - {6POINT}

1
3   2



MONUMENT - {MON}

0
2



MONUMENT EXISTING - {EXMON}

0
2



MONUMENT AND CASE - {MCC}

0
2



# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION

LINE

{CADD CELL NAME}

WEIGHT || CODE  
COLOR || LEVEL

## Level 03 Land Survey Lines & Identification

BEARINGS (GLO), TEXT

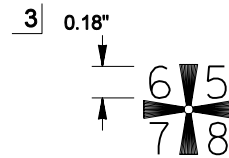
$\frac{2}{3}$

0.12"  
N 77° 14' 25'' E

SECTION CORNER FOUND - {SCF}

Use "enter data fields" to fill in section numbers.

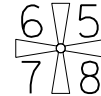
$\frac{1}{3}$



SECTION CORNER NOT FOUND - {SCNF}

Use "enter data fields" to fill in section numbers.

$\frac{1}{3}$



CENTER OF SECTION - {CNTSEC}

$\frac{1}{3}$



CLOSING CORNER FOUND - {CCF}

$\frac{1}{3}$



CLOSING CORNER NOT FOUND - {CCNF}

$\frac{1}{3}$



QUARTER CORNER FOUND - {QCF}

$\frac{1}{3}$




QUARTER CORNER NOT FOUND - {QCNF}

$\frac{1}{3}$



# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION	LINE
{CADD CELL NAME}	WEIGHT   CODE COLOR   LEVEL
Level 03 Land Survey Lines & Identification	
TOWNSHIP OR RANGE IDENTIFICATION (REQUIRED AT TOP OF VIC MAP SHEET), TEXT	<div> <div> <div>5</div> <div>3</div> </div> <div> <div>0.35"</div> <div>Font 50</div> </div> <div>T. 2N. R. 1E. W. M.</div> </div>
TOWNSHIP OR RANGE LINE	<div> <div> <div>5   0</div> <div>0   3</div> </div> <div> <div>0.25"</div> <div>Font 50</div> <div>5</div> </div> <div> <div>T. 2N. R. 1E. W</div> <div>T. 2N. R. 1E. W</div> </div> </div>
SECTION LINE	<div> <div> <div>4</div> <div>2</div> </div> <div>SECLIN</div> <div>-----</div> </div>
1/4 SECTION LINE	<div> <div> <div>3</div> <div>3</div> </div> <div>4SECLIN</div> <div>-----</div> </div>
GOVERNMENT LOT IDENTIFICATION, TEXT	<div> <div> <div>3</div> <div>3</div> </div> <div> <div>0.18"</div> <div>GOV' T LOT 3</div> </div> </div>
CORNER DESCRIPTION, TEXT	<div> <div> <div>2</div> <div>3</div> </div> <div> <div>0.10"</div> <div>1" Diam. IRON PIPE</div> </div> </div>
N.A.D. DATUM SYMBOL {DATUM}	<div> <div> <div>1</div> <div>3</div> </div> <div> <div>OUTLINE</div> <div>2</div> </div> <div>  </div> <div>(NAVD) 88</div> </div>

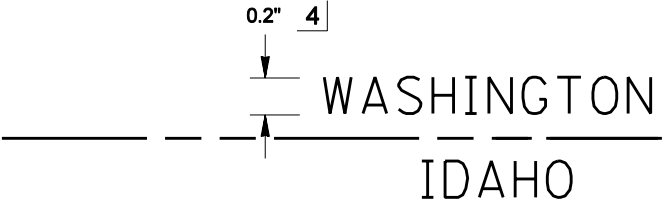
# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION  {CADD CELL NAME}	LINE	
	WEIGHT COLOR	CODE LEVEL

## Level 04 Government Agency Borders & Identification

STATE BOUNDARY, COUNTY  
LINE OR CORPORATE LIMIT

$\frac{5}{1} \parallel \frac{STATEB}{4}$



RESERVATION, PARK OR  
FOREST BOUNDARY

$\frac{4}{0} \parallel \frac{RPFB}{4}$



# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION

LINE

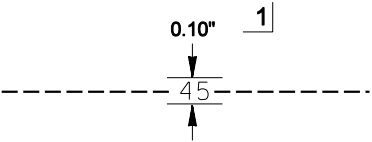
{CADD CELL NAME}

WEIGHT	CODE
COLOR	LEVEL

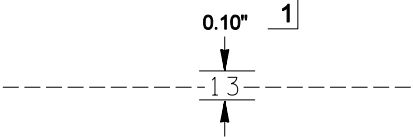
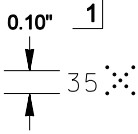
## Level 05 Index Contours & Labels - Existing

INDEX CONTOUR

4	3
3	5



# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION	LINE	
{CADD CELL NAME}	WEIGHT	CODE
	COLOR	LEVEL
Level 06 Intermediate Contours - Existing		
INTERMEDIATE CONTOUR	$\frac{0}{5} \parallel \frac{3}{6}$	
SPOT ELEVATIONS - {ESPOT}	$\frac{0}{\quad} \parallel \frac{\quad}{6}$	

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION

LINE

{CADD CELL NAME}

WEIGHT	CODE
COLOR	LEVEL

## Level 07 Natural Topog

BRUSH - {BR}

0	BR
2	7



TREE LINE OR FOREST - {TRELIN}

0	TRELIN
2	7



TREE - {TREE}

0
7



TEXT FOR LEVEL 7

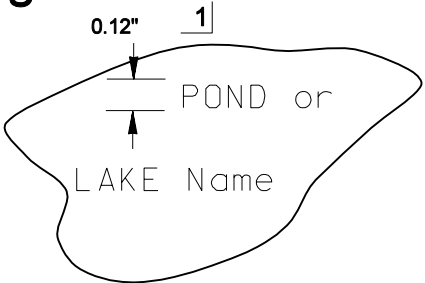


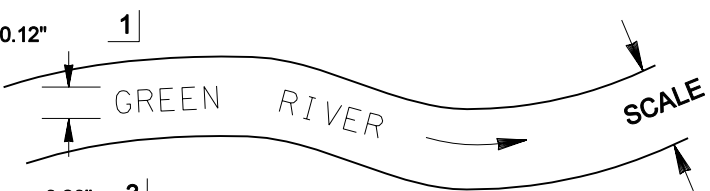
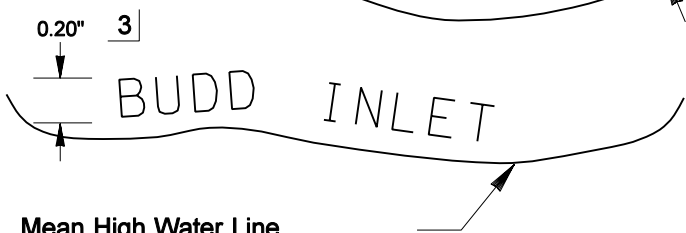
1
7

0.10"

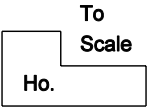
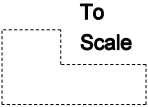



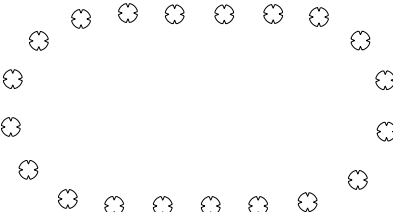


FIR TREE

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION		LINE
{CADD CELL NAME}		WEIGHT    CODE COLOR    LEVEL
Level 08 Water Topog		
POND, LAKE OR RESERVIOR	$\frac{3}{1}    \frac{0}{8}$	
NON-SCALABLE STREAM	$\frac{3}{1}    \frac{0}{8}$	
DAM OR DIKE EXISTING	$\frac{10}{1}    \frac{0}{8}$	
SCALABLE STREAM, RIVER OR CANAL	$\frac{3}{1}    \frac{0}{8}$	
TIDAL SHORELINE OR LARGE BODIES OF WATER	$\frac{3}{1}    \frac{0}{8}$	

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION	LINE	
{CADD CELL NAME}	WEIGHT    CODE COLOR    LEVEL	
Level 09 Man Made Topog		
BUILDING EXISTING	$\frac{2}{9}    0$	
CONCRETE SLAB, FOUNDATION, PATIO DECK, PAVED AREA EXISTING	$\frac{0}{9}    2$	
FENCE LINE, EXISTING - {EXFEN}	$\frac{0}{9}    \text{EXFEN}$	
FIELD LINE, QUARRY BOUNDARY, EXISTING	$\frac{1}{9}    3$	
HEDGE LINE, EXISTING - {EXHGE}	$\frac{0}{2}    \text{EXHGE}$	
ORCHARD OR VINEYARD - {ORCH}	$\frac{2}{9}    \text{ORCH}$	

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION

LINE

{CADD CELL NAME}

WEIGHT || CODE  
COLOR || LEVEL

## Level 09 Man Made Topog

QUARRY SYMBOL - {QSYMB}

$\frac{1}{9}$



RETAINING WALL, EXISTING - {EXRTW}

$\frac{0}{9}$  EXRTW



SIDEWALK EXISTING

$\frac{0}{9}$  3



OIL, GAS, WATER TANK,  
OR WELL EXISTING. {SS}  
(Place with identifying label)

$\frac{2}{9}$  2



TELEPHONE BOOTH, EXIST. - {EXTB}

$\frac{0}{9}$



YARD LIGHT, EXISTING - {YL}  
(FOR PHOTOGRAMMETRY USE)

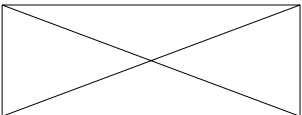
$\frac{0}{9}$



DRAINFIELD

$\frac{2}{9}$  0

To Scale



# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION

{CADD CELL NAME}

LINE

WEIGHT | CODE  
COLOR | LEVEL

## Level 10 Distance Tie & Text for Level 09

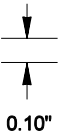
DISTANCE TIE

1 | 0  
| 10



TEXT FOR LEVEL 9

1 |  
| 10



GABION WALL

0.10"

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION {CADD CELL NAME}	LINE	
	WEIGHT COLOR	CODE LEVEL
<b>Level 11 Utilities - Existing</b>		
FIRE HYDRANT - {EXFIHY}	$\frac{0}{11}$	⌘
TELE. CABLE BURIED - {EXBT}	$\frac{0}{11}$ EXBT	BT — —
GAS PIPE LINE - {EXG}	$\frac{0}{11}$ EXG	G — —
OIL PIPE LINE - {EXO}	$\frac{0}{11}$ EXO	O — —
FIBER OPTIC CABLE - {EXOF}	$\frac{0}{11}$ EXOF	OF — —
POWER LINE BURIED - {EXBP}	$\frac{0}{11}$ EXBP	BP — —
POWER LINE OVERHEAD - {EXOP}	$\frac{0}{11}$ EXOP	OP — —
SANITARY SEWER LINES - {EXS}	$\frac{0}{11}$ EXS	S — —
TELE. CABLE OVERHEAD - {EXOT}	$\frac{0}{11}$ EXOT	OT — —
WATER LINE - {EXW}	$\frac{0}{11}$ EXW	W — —
TELEVISION CABLE OVERHEAD - {EXOTV}	$\frac{0}{11}$ EXOTV	OTV — —
TELEVISION CABLE BURIED - {EXBTV}	$\frac{0}{11}$ EXBTV	BTV — —

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION

{CADD CELL NAME}

LINE

WEIGHT | CODE  
COLOR | LEVEL

## Level 11 Utilities - Existing

UTILITIES - {EXU & EXU1 THRU EXU9}

These can be used when multiple utilities coincide. When {EXU} is used list the associated utilities in a call-out balloon. When {EXU1, EXU2,... etc.} are used list the associated utilities in the legend.

0 |  
11

EXU U — —  
EXU1 U1 — —  
thru  
EXU9

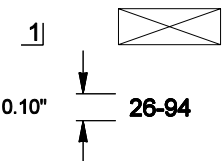
POLE ANCHOR - {EXANCH}

0 |  
11



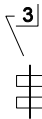
METAL TRANSMISSION TOWER  
TOWER LEGS TO BE DRAWN AT  
ACTUAL SIZE

1 |  
11



WOOD TRANSMISSION TOWER - {WTT}

1 |  
11



UTILITY POLE - {EXUP}

0 |  
11



VALVE BOX - {EXVB}

0 |  
11



TEXT FOR LEVEL 11 EXISTING

1 |  
11



# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION

LINE

{CADD CELL NAME}

WEIGHT	CODE
COLOR	LEVEL




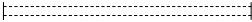





Level 12 NOT ASSIGNED

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION  
{CADD CELL NAME}

LINE  
WEIGHT || CODE  
COLOR || LEVEL

## Level 13 Drainage - Existing

AREA INLET - {EXAI}	<u>0</u>   13	
INLET - {EXDI1}	<u>0</u>   13	
CATCH BASIN - {EXCB}	<u>0</u>   13	
CULVERT	<u>0</u>   <u>2</u> 13	
DITCH SYMBOL - {EDIT}	<u>1</u>   EDIT 13	
DRAIN LINE - {EXD}	<u>0</u>   EXD 13	
UNDERDRAIN LINE - {EXUDRN}	<u>0</u>   EXUDRN 13	
STORM SEWER LINE - {EXST}	<u>0</u>   EXST 13	
MANHOLE - {EXMH}	<u>0</u>   13	

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION	LINE	
	WEIGHT	CODE
	COLOR	LEVEL

{CADD CELL NAME}

## Level 14 Text for Level 13

TEXT FOR LEVEL 13

1|  
14

0.10"  
↓  
CULVERT  
↑

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION

{CADD CELL NAME}

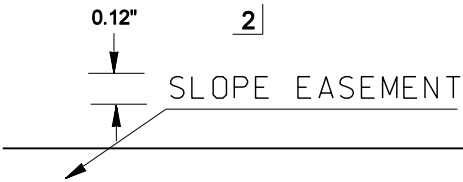
LINE

WEIGHT	CODE
COLOR	LEVEL



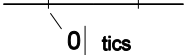


## Level 15 Easements, Permits & Utility R/W

EASEMENT, PERMIT OR  
UTILITY R/W LINE

3	0
0	15



# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION	LINE	
{CADD CELL NAME}	WEIGHT   CODE COLOR   LEVEL	
Level 16 Railroad Centerline, Edges of Roadway & Identification - Existing		
EDGE OF GRAVEL ROAD, SHOULDER, EXISTING ROAD APPROACH, ANY GRAVEL ITEMS	$\frac{0}{0}   \frac{5}{16}$	
EDGE OF PAVED ROAD, SHOULDER, EXISTING ROAD APPROACH, OR PATHS ANY PAVED ITEMS	$\frac{0}{0}   \frac{2}{16}$	
RAILROAD TRACK EXISTING - {RR}	$\frac{2}{16}   \text{RR}$	
RAILROAD AND ROADWAY NAMES	$\frac{1}{16}  $	
CURB, EXISTING	$\frac{0}{16}   \frac{4}{22}$	

## STANDARD SYMBOLS AND CONVENTIONS

### DESCRIPTION

**LINE**

**{CADD CELL NAME}**

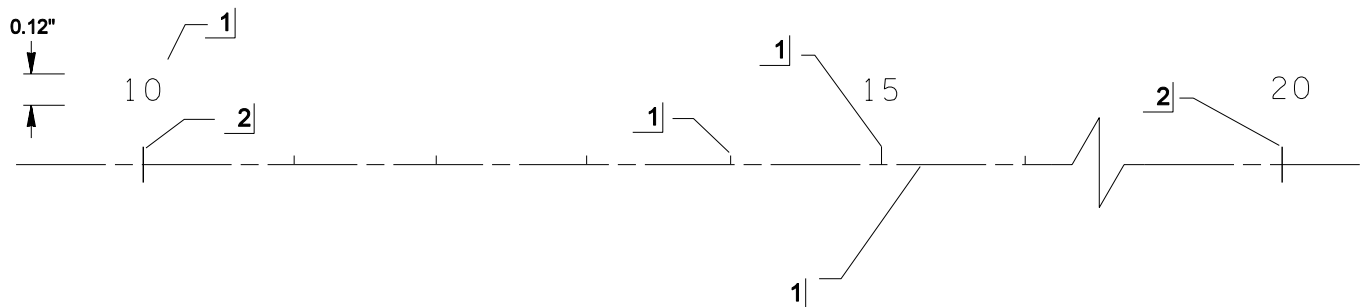
WEIGHT	CODE
COLOR	LEVEL

## Level 17 Highway Alignment - Existing

**CENTER LINE**

1	EXCTRHWY
9	17

**EXISTING CENTER LINE**



# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION

LINE

{CADD CELL NAME}

WEIGHT	CODE
COLOR	LEVEL

## Level 18 Local Agency R/W, RR R/W & Easements, and Existing Easements & Permits

RAILROAD R/W

2	RRR/W
7	18

- - - - -

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION

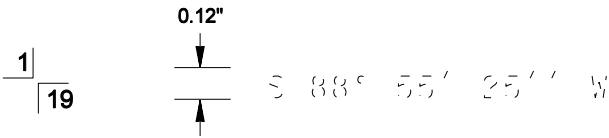
{CADD CELL NAME}

LINE

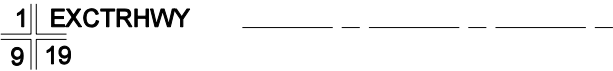
WEIGHT || CODE  
COLOR || LEVEL

## Level 19 R/W Alignment for PS&E-Existing

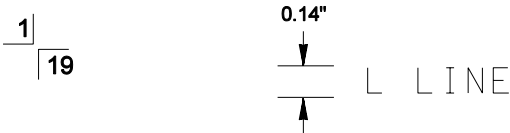
BEARINGS



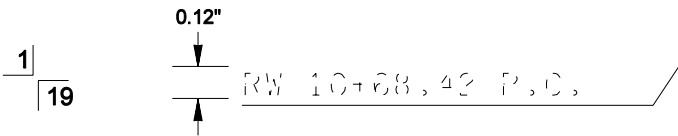
CENTER LINE



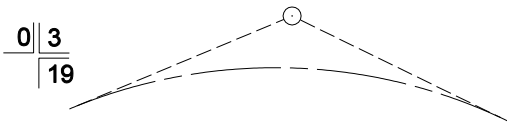
LINE DESIGNATION



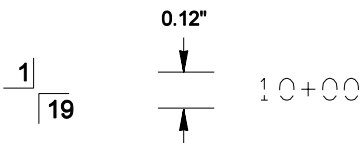
P.C., P.T., P.I. IDENT. W/LEADER



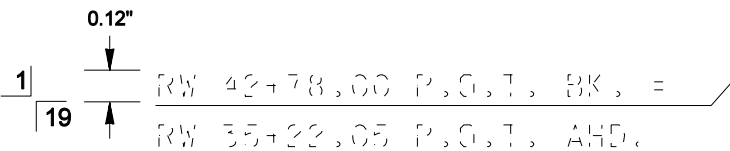
P.I. TO P.I. DASHED LINE



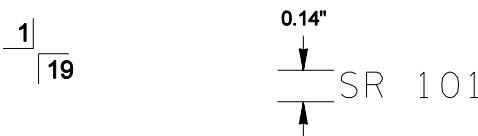
STATIONS @ 500'



STATIONS EQUATIONS IDENT. W/LEADER



TEXT FOR SR NUMBER



# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION

LINE

{CADD CELL NAME}

WEIGHT	CODE
COLOR	LEVEL

## Level 20 PS&E R/W Boundary

R/W LINE CITY, COUNTY,  
STATE AND ETC.

5	0
	20



# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION

LINE

{CADD CELL NAME}

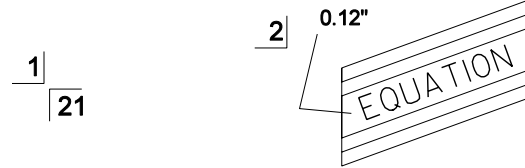
WEIGHT | CODE  
COLOR | LEVEL

## Level 21 Highway Alignment - Existing Text and Information

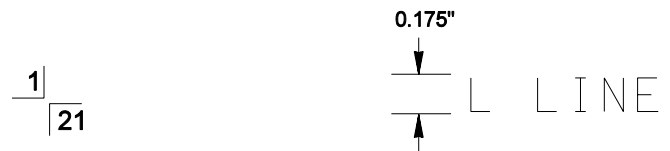
BEARINGS



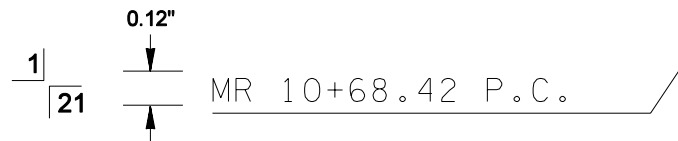
EQUATION FLAG - {EXEQU}



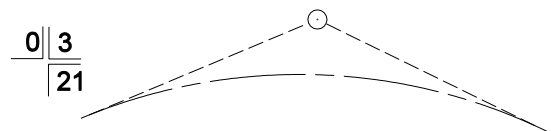
LINE DESIGNATION



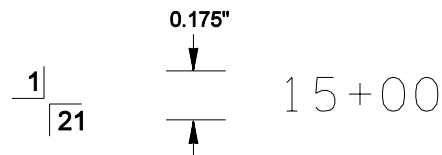
P.C., P.T., P.I. IDENT. W/LEADER



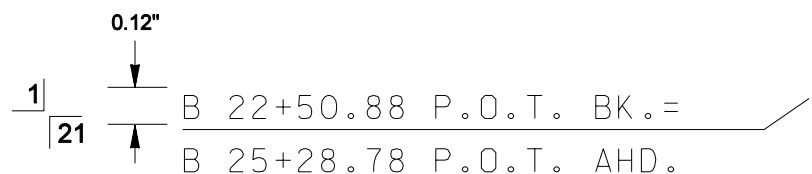
P.I. TO P.I. DASHED LINE



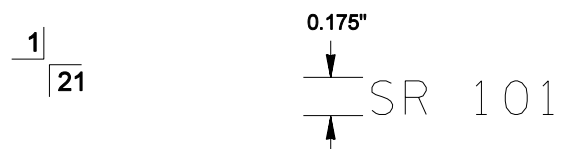
STATIONS



STATIONS EQUATIONS IDENT.  
W/LEADER




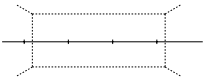

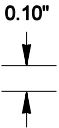
TEXT FOR SR NUMBER

















# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION  {CADD CELL NAME}	LINE	
	WEIGHT COLOR	CODE LEVEL

## Level 22 Bridges, Tunnels & Etc. - Existing

BRIDGE OR HIGHWAY STRUCTURE	<div><div>0</div><div>1</div><div>22</div></div>	<div>Scale</div> 
RAILROAD STRUCTURE	<div><div>0</div><div>1</div><div>22</div></div>	
TUNNEL	<div><div>0</div><div>1</div><div>22</div></div>	<div>Scale</div> <div>Tunnel</div> 
TEXT	<div><div>1</div><div>22</div></div>	<div>0.10"</div> 
		512 OVERCROSSING

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION {CADD CELL NAME}	LINE		
	WEIGHT COLOR	CODE LEVEL	
Level 23 Delineation, Pavt. Markings, & Etc. - Existing			
STOP LINE	<div><div>5</div><div>2</div></div> <div><div>3</div><div>2</div></div> <div>23</div>		
CROSSWALK LINE	<div><div>3</div><div>2</div></div> <div>23</div>		
CROSSWALK LINE	<div><div>0</div><div>CROSS12</div></div> <div>23</div>		
GUARDRAIL - {EXGR}	<div><div>0</div><div>EXGR</div></div> <div>23</div>		
GUIDE POST - {EXGP}	<div><div>0</div></div> <div>23</div>		
IMPACT ATTENUATOR - {EXATTN}	<div><div>0</div><div>2</div></div> <div>23</div>		
LIGHT POLE - {LP} (FOR PHOTOGRAMMETRY USE)	<div><div>0</div></div> <div>23</div>		
PREFERENTIAL LANE SYMBOL - {EXHOV}	<div><div>0</div></div> <div>23</div>		
RAISED PAVEMENT MARKER TYPE 1, - {EXRPM1}	<div><div>0</div></div> <div>23</div>		
RAISED PAVEMENT MARKER TYPE 2, - {EXRPM2}	<div><div>0</div></div> <div>23</div>		
RAISED PAVEMENT MARKER TYPE 3, - {EXRPM3}	<div><div>0</div></div> <div>23</div>		
SIGN - {E1S1}	<div><div>0</div></div> <div>23</div>		
BIKE - {EXBIKE}	<div><div>0</div></div> <div>23</div>		
RAILROAD CROSSING SYMBOL - {EXRR}	<div><div>0</div></div> <div>23</div>		

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION {CADD CELL NAME}	LINE		
	WEIGHT COLOR	CODE LEVEL	
Level 23 Delineation, Pvmt. Markings, & Etc. - Existing			
SOLID LINE	0	3 23	-----
SKIP LINE	0	ESTRIP 23	-- -- --
DROP LINE	0	DSTRIP 23	- - - - - -->
TRAFFIC ARROW,TYPE 5, BIG, STRAIGHT, - {EBSTAR}	0	23	= == >
TRAFFIC ARROW, TYPE 4,LEFT & RIGHT, - {ELRTAR}	0	23	
TRAFFIC ARROW, TYPE 3L, LEFT & STRAIGHT - {ELSTAR}	0	23	
TRAFFIC ARROW, TYPE 2L LEFT, - {ELTAR}	0	23	
TRAFFIC ARROW, TYPE 3 L&R, LEFT, RIGHT & STRAIGHT - {ELRSAR}	0	23	
TRAFFIC ARROW, TYPE 3R RIGHT & STRAIGHT - {ERSTAR}	0	23	
TRAFFIC ARROW, 2 R, RIGHT, - {ERTAR}	0	23	
TRAFFIC ARROW,TYPE 1, STRAIGHT, - {ESTAR}	0	23	= == >
TRAFFIC BARRIER - {EXTRBR}	0	EXTRBR 23	[ = ]
TRAFFIC BUTTON - {EXTBUT}	0	23	(+)

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION  {CADD CELL NAME}	LINE	
	WEIGHT	CODE
	COLOR	LEVEL

## Level 24 Text for Level 23

TEXT FOR LEVEL 23

1  
24

0.10"  
SIGN

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION  {CADD CELL NAME}	LINE	
	WEIGHT	CODE
	COLOR	LEVEL

## Level 25 Centerline Proposed R/W

Reserved for R/W Plans  
See Division 3

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION	LINE	
	WEIGHT	CODE
{CADD CELL NAME}	COLOR	LEVEL

## Level 26 R/W Alignment Text

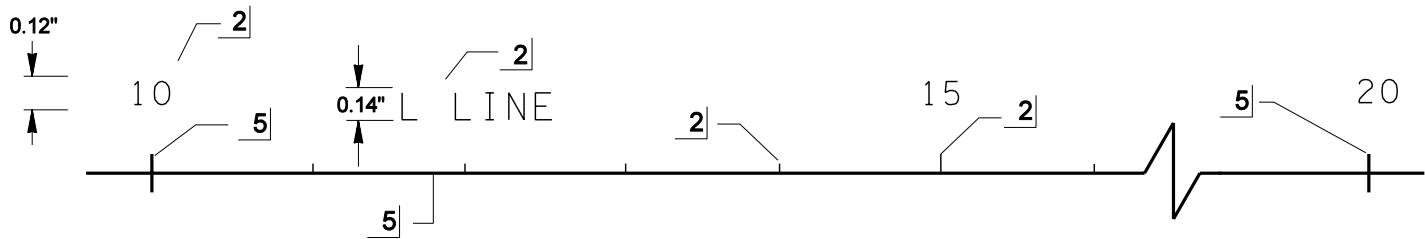
Reserved for R/W Plans  
See Division 3

## STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION	LINE	
{CADD CELL NAME}	WEIGHT	CODE
	COLOR	LEVEL

# Level 27 Construction Centerline

## CONSTRUCTION PLAN CENTER LINE



# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION	LINE
{CADD CELL NAME}	WEIGHT   CODE COLOR   LEVEL
Level 28 Highway Alignment - To Be Constructed	
BEARINGS HIGHWAY	
BEARINGS HIGHWAY	
LINE DESIGNATION	
P.C., P.T., P.I. IDENT. W/LEADER HIGHWAY	
P.I. TO P.I. DASHED LINE HIGHWAY	
STATIONS @ 500'	
STATIONS EQUATIONS IDENT. W/LEADER HIGHWAY	
SR NUMBER HIGHWAY	

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION  {CADD CELL NAME}	LINE	
	WEIGHT COLOR	CODE LEVEL

Level 29 R/W Line - Existing

Reserved for R/W Plans  
See Division 3

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION

LINE

{CADD CELL NAME}

WEIGHT	CODE
COLOR	LEVEL

Level 30 Proposed R/W Line

Reserved for R/W Plans  
See Division 3

# STANDARD SYMBOLS AND CONVENTIONS

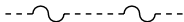

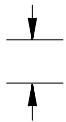

DESCRIPTION

LINE

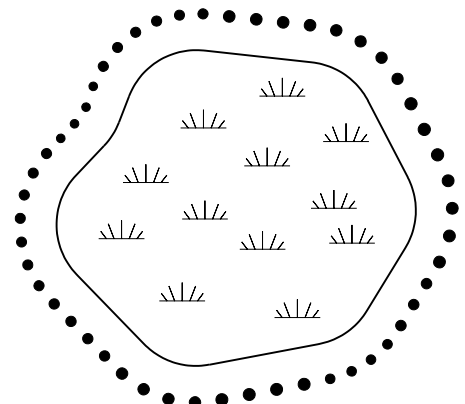
{CADD CELL NAME}

WEIGHT | CODE  
COLOR | LEVEL

## Level 31 Wetlands & Stormwater Treatment Areas

BIOFILTRATION SWALE	{EXBIO}	2   EXBIO 31	
BIOFILTRATION SWALE NEW	{PROBIO}	2   PROBIO 31	
INVENTORY WETLAND BOUNDARY	{INVWET}	0   INVWET 31	INV — INV —
ENVIRONMENTAL RESOURCE AREA BOUNDARY	{ERAREA}	0   ERAREA 31	ERA — ERA —
STORMWATER TREATMENT AREA	EXISTING	2   3 31	-----
	NEW	2   0 31	_____
TEXT FOR LEVEL 31		0   31	<div>0.14"</div>  <div>S.T.A.</div>
WETLAND BOUNDARY	EXISTING	3   3 31	.....
WETLAND BOUNDARY	PROPOSED	3   3 31	_____
WETLAND OR WETLAND MITIGATION SITE BUFFER ZONE BOUNDARY	EXISTING	2   DOT 31	● ● ● ● ● ● ● ●
	{DOT}		
WETLAND OR WETLAND MITIGATION SITE SYMBOL	EXISTING	0   31	
	{WET}		

TYPICAL LAYOUT OF WETLAND SITE



# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION

LINE

{CADD CELL NAME}

WEIGHT	CODE
COLOR	LEVEL

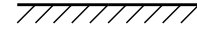
## Level 32 Limited Access Hachures

R/W LIMITED ACCESS, LEFT SIDE

- {PHACHL}

PS&E PLANS

5	PHACHL
32	



R/W LIMITED ACCESS, RIGHT SIDE

- {PHACHR}

PS&E PLANS

5	PHACHR
32	

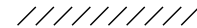


R/W LIMITED ACCESS, FLOATER

- {HACHL}

PS&E PLANS

2	HACHL
32	

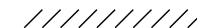


R/W LIMITED ACCESS, FLOATER

- {HACHR}

PS&E PLANS

2	HACHR
32	



# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION  {CADD CELL NAME}	LINE	
	WEIGHT COLOR	CODE LEVEL

## Level 33 Turnback Lines & Relinquishment Text

Reserved for R/W Plans  
See Division 3

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION

LINE

{CADD CELL NAME}

WEIGHT	CODE
COLOR	LEVEL

## Level 34 Offsets to Existing R/W, Metes & Bounds

Reserved for R/W Plans

See Division 3

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION  {CADD CELL NAME}	LINE	
	WEIGHT	CODE
	COLOR	LEVEL

## Level 35 Offsets and Stationing

TEXT, OFFSETS AND STATIONING  
TO R/W

2  
35

0.10"  
↓  
↑

MR 10+880.03

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION	LINE	
{CADD CELL NAME}	WEIGHT	CODE
	COLOR	LEVEL
Level 36 Parcel Info, Names, Notes & Schedules		
GENERAL NOTES (TITLE)	<div><div>1</div><div>36</div></div>	<div><div>0.175"</div><div>NOTES</div></div>
GENERAL NOTES (TEXT)	<div><div>1</div><div>36</div></div>	<div><div>0.125"</div><div>BODY OF NOTE</div></div>
PARCEL NUMBER - {PNn}	<div><div>2</div><div>36</div></div>	<div><div>TEXT SIZE 0.12" TYP.</div><div>1</div></div>
CELL SHOWN IS FOR NORTHWEST REGION (PN1). NORTH CENTRAL REGION = PN2 OLYMPIC REGION = PN3 SOUTHWEST REGION = PN4 SOUTH CENTRAL REGION = PN5 EASTERN REGION = PN6		USE "ENTER DATA FIELDS" TO FILL IN PARCEL NUMBERS.
NAMES OF TOWNS, CITIES,  FONT=42	<div><div>1</div><div>36</div></div>	<div><div>0.40"</div><div>F I F E</div></div>
INTERCHANGES	<div><div>1</div><div>36</div></div>	<div><div>0.30"</div><div>I N T E R C H A N G E S</div></div>
SUBDIVISIONS	<div><div>1</div><div>36</div></div>	<div><div>0.20"</div><div>S U B D I V I S I O N</div></div>

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION

{CADD CELL NAME}

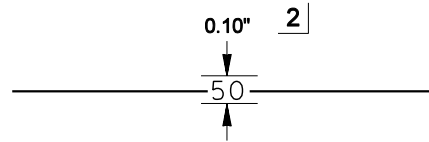
LINE

WEIGHT | CODE  
COLOR | LEVEL

## Level 37 Contours & Cut/Fill Lines To Be Constructed

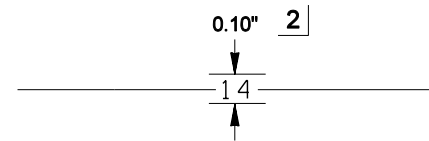
CONTOUR, INDEX

4 | 0  
37



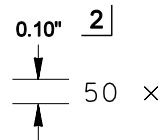
CONTOUR, INTERMEDIATE

0 | 0  
37



SPOT ELEVATIONS - {SPOT}

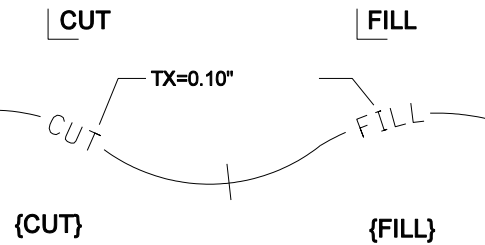
0 | 0  
37



CUT AND FILL CATCH SLOPES -

Identify at intervals  
sufficient for clarity

0 |  
37



# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION

LINE

{CADD CELL NAME}

WEIGHT | CODE  
COLOR | LEVEL

## Level 38 Drainage - To Be Constructed

AREA INLET - {PROAI}

0 |  
38



CATCH BASIN - {PROCB}

0 |  
38



INLET - {PRDI1}

0 |  
38



CULVERT

1 | 0  
38



DIKE

10 | 0  
38



DITCH SYMBOL - {PDIT}

1 | PDIT  
38



DRAIN LINE - {PROD}

0 | PROD  
38



UNDERDRAIN LINE - {UDRN}

0 | UDRN  
38



STORM SEWER LINE - {PROST}

0 | PROST  
38



MANHOLE - {PROMH}




0 |  
38




# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION  {CADD CELL NAME}	LINE	
	WEIGHT COLOR	CODE LEVEL

## Level 39 Text for Level 38 & Structure Note Flag

STRUCTURE NOTE FLAG - {SNF}	<div><div>0</div><div>39</div></div>	
STRUCTURE NOTE FLAG CONTINUED - {SNFC}	<div><div>0</div><div>39</div></div>	
TEXT FOR LEVEL 38	<div><div>2</div><div>39</div></div>	<div><div>0.10"</div><div></div></div> CULVERT





# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION {CADD CELL NAME}	LINE WEIGHT    CODE COLOR    LEVEL	
<b>Level 40 Utilities - To Be Constructed</b>		
FIRE HYDRANT, PROPOSED - {FIHY}	$\frac{0}{40}$	
TELE. CABLE BURIED - {PROBT}	$\frac{0}{40}$    PROBT	BT ———
GAS PIPE LINE - {PROG}	$\frac{0}{40}$    PROG	G ———
OIL PIPE LINE - {PROO}	$\frac{0}{40}$    PROO	O ———
FIBER OPTIC CABLE - {OF}	$\frac{0}{40}$    OF	OF ———
POWER LINE BURIED - {PROBP}	$\frac{0}{40}$    PROBP	BP ———
POWER LINE OVERHEAD - {PROOP}	$\frac{0}{40}$    PROOP	OP ———
SANITARY SEWER LINE - {PROS}	$\frac{0}{40}$    PROS	S ———
TELE. CABLE OVERHEAD - {PROOT}	$\frac{0}{40}$    PROOT	OT ———
WATER LINE - {PROW}	$\frac{0}{1}$    PROW 40	W ———
BURIED OPTIC FIBER - {BF}	$\frac{0}{1}$    BF 40	BF ———
BURIED TELEVISION - {BTV}	$\frac{0}{1}$    BTV 40	BTV ———
OVERHEAD TELEVISION- {OTV}	$\frac{0}{1}$    OTV 40	OTV ———

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION {CADD CELL NAME}	LINE	
	WEIGHT COLOR	CODE LEVEL

## Level 40 Utilities - To Be Constructed

POLE ANCHOR - {ANCH}	<div><div>0</div><div>40</div></div>	
TELEPHONE BOOTH - {TELBTH}	<div><div>0</div><div>40</div></div>	
UTILITY POLE - {UP}	<div><div>0</div><div>40</div></div>	
VALVE BOX - {VB}	<div><div>0</div><div>40</div></div>	

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION

LINE

{CADD CELL NAME}

WEIGHT		CODE
COLOR		LEVEL

## Level 41 Text for Level 40

TEXT FOR LEVEL 40




2
41

0.10"
↓
UTILITY
↑

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION  {CADD CELL NAME}	LINE	
	WEIGHT COLOR	CODE LEVEL

## Level 42 Barrier, Fence, Guardrail, Walls, etc. - To Be Constructed

FENCE LINE - {FENCE}	<div><div>0</div><div>FENCE</div><div>42</div></div>	x —————
RETAINING WALL - {PRTW}	<div><div>0</div><div>PRTW</div><div>42</div></div>	
GUARDRAIL - {PGR}	<div><div>0</div><div>PGR</div><div>42</div></div>	—————
IMPACT ATTENUATOR - {ATTN}	<div><div>0</div><div></div><div>42</div></div>	
TRAFFIC BARRIER - {TRBR}	<div><div>0</div><div>TRBR</div><div>42</div></div>	

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION	LINE	
{CADD CELL NAME}	WEIGHT	CODE
	COLOR	LEVEL

Level 43 Text for Level 42

TEXT FOR LEVEL 42

2

43

0.10"

BARBWIRE FENCE

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION  {CADD CELL NAME}	LINE	
	WEIGHT COLOR	CODE LEVEL

## Level 44 Paving Areas, Intersections, Approaches, Bike Paths, etc. - To Be Constructed

BIKE PATH, CURB, EDGE OF LANE,  
PAVED AREA, ROAD APPROACH,  
ROAD INTERSECTION, SHOULDER,  
SIDEWALK, PEDESTRIAN PATH

1	0
	44



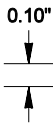
# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION  {CADD CELL NAME}	LINE	
	WEIGHT COLOR	CODE LEVEL

## Level 45 Text for Level 44











TEXT FOR LEVEL 44

2 | 45



PEDESTRIAN PATH

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION	LINE	
{CADD CELL NAME}	WEIGHT   CODE COLOR   LEVEL	
Level 46 Pavement Markings - To Be Constructed		
CROSSWALK LINE	3   0 46	
CROSSWALK LINE	0   CROSS12 46	
GUIDE POST - {PROGP}	1   46	
PREFERENTIAL LANE SYMBOL, - {HOV}	1   46	
RAILROAD CROSSING SYMBOL - {RRS}	1   46	
RAISED PAVEMENT MARKER TYPE 1, - {RPM1}	1   46	
RAISED PAVEMENT MARKER TYPE 2, - {RPM2}	1   46	
RAISED PAVEMENT MARKER TYPE 3, - {RPM3}	1   46	
STOP LINE	5   0 46	
BIKE LANE SYMBBOL {BIKE}	1   46	

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION

{CADD CELL NAME}

LINE

WEIGHT | CODE  
COLOR | LEVEL

## Level 46 Pavement Markings - To Be Constructed

EDGE LINE

1 | 0  
46



PAVEMENT LANE LINE - {PSTRIP}

0 | PSTRIIP  
46



DROP LINE PROPOSED - {DSTRIP}

0 | DSTRIP  
46



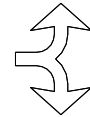
TRAFFIC ARROW, TYPE 5, BIG,  
STRAIGHT, - {BSTAR}

1 |  
46



TRAFFIC ARROW, TYPE 4, LEFT  
& RIGHT, - {LRTAR}

1 |  
46



TRAFFIC ARROW, TYPE 3L, LEFT  
& STRAIGHT - {LSTAR}

1 |  
46



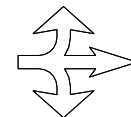
TRAFFIC ARROW, TYPE 2L LEFT,  
- {LTAR}

1 |  
46



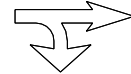
TRAFFIC ARROW, TYPE 3 L&R, LEFT,  
RIGHT & STRAIGHT - {LRSAR}

1 |  
46



TRAFFIC ARROW, TYPE 3R RIGHT  
& STRAIGHT - {RSTAR}

1 |  
46



TRAFFIC ARROW, TYPE 2R RIGHT,  
- {RTAR}

1 |  
46



TRAFFIC ARROW, TYPE 1 STRAIGHT  
- {STAR}

1 |  
46



# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION	LINE	
{CADD CELL NAME}	WEIGHT	CODE
	COLOR	LEVEL

## Level 47 Text for Level 46

TEXT FOR LEVEL 46	<div>2</div> <div>47</div>	0.10"	EDGE OF LANE
		<div></div> <div></div>	

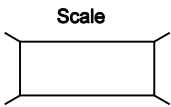
# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION	LINE	
	WEIGHT	CODE
{CADD CELL NAME}	COLOR	LEVEL

## Level 48 Bridges, Tunnels, etc. - To Be Constructed

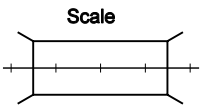
BRIDGE OR HIGHWAY  
STRUCTURE

2 | 0  
48



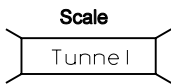
RAILROAD STRUCTURE

2 | 0  
48



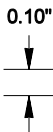
TUNNEL

2 | 0  
48




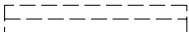





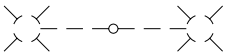
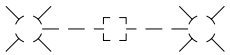
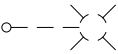
TEXT

2 |  
48

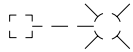
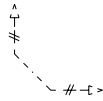
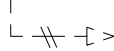
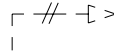
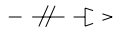






512 OVERCROSSING

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION	LINE	
{CADD CELL NAME}	WEIGHT   CODE COLOR   LEVEL	
<b>Level 49 Illum. &amp; Signal Systems/Assoc. Equipment &amp; Text - Existing</b>		
CONDUIT AND WIRING (SIGNAL OR ILLUM.)	0   6 49	-----
CONTROL CABINET - {ECC}	0   49	
LOOP DETECTOR TYPE 1 - {ELOOP1}	0   49	
LOOP DETECTOR TYPE 2 - {ELOOP2}	0   49	
EMERGENCY PRE-EMPT DETECTOR, - {EEPDET}	0   49	
JUNCTION BOX TYPE 1 - {EJB1}	0   49	
JUNCTION BOX TYPE 2 - {EJB2}	0   49	
JUNCTION BOX TYPE 3 - {EJB3}	0   49	
METAL DOUBLE LIGHT STD.-{EMDLS}	0   49	
TIMBER DOUBLE LT. STD. - {ETDLS}	0   49	
METAL LIGHT STANDARD - {EMLS}	0   49	

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION	LINE	
{CADD CELL NAME}	WEIGHT   CODE COLOR   LEVEL	
Level 49 Illum. & Signal Systems Assoc. Equipment & Text - Existing		
TIMBER LIGHT STD.- {ETLS}	0   49	
DOUBLE PEDESTRIAN HEAD - {EDPHD}	0   49	
SINGLE PEDESTRIAN HEAD-LEFT-{ESPHDL}	0   49	
SINGLE PEDESTRIAN HEAD-RIGHT-{ESPHDR}	0   49	
STRAIGHT PEDESTRIAN HEAD-{ESTPHD}	0   49	
PEDESTRIAN PUSH BUTTON POST {EPPBP}	0   49	
PS, TYPE I & IV SIGNAL POLE {ESST14}	0   49	
SERVICE CABINET-{EESC}	0   49	
VEHICLE SIGNAL HEAD - {ESIGHD}	0   49	

## STANDARD SYMBOLS AND CONVENTIONS

### DESCRIPTION

LINE

**{CADD CELL NAME}**

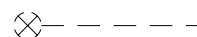
WEIGHT	CODE
COLOR	LEVEL

**Level 49 Illum. & Signal Systems/Assoc.  
Equipment & Text - Existing**

### SIGNAL POLE TYPE II - {ESST2}

Mast arms shown at 40'.  
Designer to adjust mast arm  
length as necessary.

0 49



### SIGNAL POLE TYPE III - {ESST3}

Mast arms shown at 40'.  
Designer to adjust mast arm  
length as necessary.  
Luminaires shown at 16' out on mast arm.

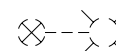
0  
49



### TYPE V SIGNAL POLE - {ESST5}

Luminaires shown at 16' out on mast arm.

0 49



### UNDERDECK LUMINAIRE - {EUDL}

0  
49



**LUMINIARE SCHEDULE 40**  
**- {LUMSCH}**

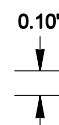
(Not to scale)

1 49

[illegible]

**TEXT FOR LEVEL 49**

1 | 49



PVC CONDUIT

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION

LINE

{CADD CELL NAME}

WEIGHT | CODE  
COLOR | LEVEL

## Level 50 Illum. & Signal Systems/Assoc. Equipment & Text - To Be constructed

CONDUIT AND WIRING  
(SIGNAL OR ILLUM.)

$\frac{2}{1} \frac{6}{50}$



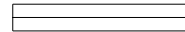
CONTROL CABINET - {PCC}

$\frac{1}{1} \frac{50}{50}$



LOOP DETECTOR TYPE 1 - {WDT1LP}

$\frac{1}{1} \frac{50}{50}$



LOOP DETECTOR TYPE 2, PROP.  
- {WDT2LP}

$\frac{1}{1} \frac{50}{50}$



EMERGENCY PRE-EMPT DETECTOR,  
- {EPDET}

$\frac{1}{1} \frac{50}{50}$



EMERGENCY PRE-EMPT INDICATOR  
- {EPIND}

$\frac{1}{1} \frac{50}{50}$



JUNCTION BOX TYPE 1 - {PJB1}

$\frac{1}{1} \frac{50}{50}$



JUNCTION BOX TYPE 2 - {PJB2}

$\frac{1}{1} \frac{50}{50}$



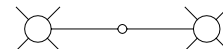
JUNCTION BOX TYPE 3 - {PJB3}

$\frac{1}{1} \frac{50}{50}$

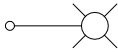
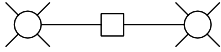
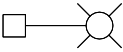

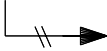
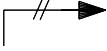
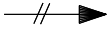





METAL DOUBLE LIGHT STD.-{MDLS}

$\frac{1}{1} \frac{50}{50}$



# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION {CADD CELL NAME}	LINE WEIGHT    CODE COLOR    LEVEL	
<b>Level 50 Illum. &amp; Signal Systems/Assoc. Equipment &amp; Text - To Be constructed</b>		
METAL LIGHT STANDARD - {MLS}	$\frac{1}{50}$	
TIMBER DOUBLE LT. STD. - {TDLS}	$\frac{1}{50}$	
TIMBER LIGHT STD. - {TLS}	$\frac{1}{50}$	
DOUBLE PEDESTRIAN HEAD-{DPBBD} TYPE A, B OR C MOUNTING	$\frac{1}{50}$	
SINGLE PEDESTRIAN HEAD-LEFT -{SPDHDL} TYPE E MOUNTING	$\frac{1}{50}$	
SINGLE PEDESTRIAN HEAD-RIGHT -{SPDHDR} TYPE E MOUNTING	$\frac{1}{50}$	
STRAIGHT PEDESTRIAN HEAD -{STPHD} TYPE D MOUNTING	$\frac{1}{50}$	
PEDESTRIAN PUSH BUTTON - {PPB}	$\frac{1}{50}$	
PEDESTRIAN PUSH BUTTON POST {PPBP}	$\frac{1}{50}$	
PS, TYPE I & IV SIGNAL POLE {SST14}	$\frac{1}{50}$	

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION

LINE

{CADD CELL NAME}

WEIGHT | CODE  
COLOR | LEVEL

## Level 50 Illum. & Signal Systems/Assoc. Equipment & Text - To Be Constructed

SERVICE CABINET - {PESC}

1 |  
50



SIGNAL POLE TYPE II - {SST2}

Mast arms shown at 40'.  
Designer to adjust mast arm  
length as necessary.

1 |  
50



SIGNAL POLE TYPE III - {SST3}

Mast arms shown at 40'.  
Designer to adjust mast arm  
length as necessary.  
Luminaires shown at 16' out on mast arm.

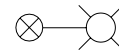
1 |  
50



TYPE V SIGNAL POLE - {SST5}

LUMINAIRES SHOWN AT 16' OUT ON MAST ARM.

1 |  
50



UNDERDECK LUMINAIRE - {UDL}

1 |  
50



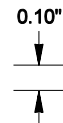
VEHICLE SIGNAL HEAD - {PSIGHD}

1 |  
50






TEXT FOR LEVEL 50

2 |  
50
















PVC CONDUIT

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION  {CADD CELL NAME}	LINE	
	WEIGHT	CODE
	COLOR	LEVEL
Level 51 Construction & Wire Note Flags		
Text for Pole Notes & Schedules		
CONSTRUCTION NOTE FLAG - {CNF}	<div><div>0</div><div>51</div></div>	
POLE NOTE - {PNOTE}	<div><div>0</div><div>51</div></div>	
WIRE NOTE FLAG - {WNF}	<div><div>0</div><div>51</div></div>	
TEXT FOR LEVEL 51	<div><div>1</div><div>51</div></div>	<div><div>0.12"</div><div><div></div><div></div></div><div>5</div></div>

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION  {CADD CELL NAME}	LINE		
	WEIGHT COLOR	CODE LEVEL	
CCTV CAMERA - {ECAM}	0	52	
ITS CABLE VAULT - {ECBLV}	0	52	
COMMUNICATIONS HUB - {ECHUB}	0	52	
ITS PULL BOX - {EPULBX}	0	52	
TERMINAL CABINET - {ETERCB}	0	52	
TRANSFORMER CABINET - {ETRFCB}	0	52	
MODIFIED TYPE 2 INDUCTION LOOP- {EMLOP2}	0	52	
HAR (HIGHWAY ADVISORY RADIO) SIGN - {EHARS}	0	52	
NEMA 4X JUNCTION BOX - {ENEMA}	0	52	
HAR CONTROLLER CABINET - {EXHARC}	0	52	
CCTV CONTROLLER CABINET - {ETVCB}	0	52	
ADVANCED WARNING SYSTEM - {EADVWS}	0	52	
DMS CONTROLLER CABINET - {EVMSCB}	0	52	

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION

{CADD CELL NAME}

LINE

WEIGHT || CODE  
COLOR || LEVEL

## Level 52 Intellegent Transportation System (ITS) Existing

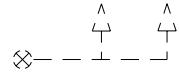
TYPE 1 SIGNAL STNADARD - {ERMSHL}

0 |  
52



TYPE 2 SIGNAL STANDARD - {ET2SIG}

0 |  
52



HAR TRANSMITTER - {EHARTR}

0 |  
52



SHOULDER DMS - {EVMSSH}

0 |  
52



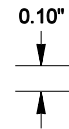
OVERHEAD DMS - {EVMS}

0 |  
52



TEXT FOR LEVEL 52

1 |  
52



DYNAMIC MESSAGE SIGN

# STANDARD SYMBOLS AND CONVENTIONS














DESCRIPTION

LINE

{CADD CELL NAME}

WEIGHT | CODE  
COLOR | LEVEL









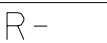



## Level 53 Intellegent Transportation System (ITS) To Be Constructed

CCTV CAMERA - {CAM}	1   53	
ITS CABLE VAULT - {PCBLV}	1   53	
COMMUNICATIONS HUB - {PCHUB}	1   53	
ITS PULL BOX - {PPULBX}	1   53	
TERMINAL CABINET - {PTERCB}	1   53	
TRANSFORMER CABINET - {PTRFCB}	1   53	
MODIFIED TYPE 2 INDUCTION LOOP- {PMLOP2}	1   53	
HAR (HIGHWAY ADVISORY RADIO) SIGN - {NHARS}	1   53	
NEMA 4X JUNCTION BOX - {PNEMA}	1   53	
HAR CONTROLLER CABINET - {PXHARC}	1   53	
CCTV CONTROLLER CABINET - {PTVCB}	1   53	
ADVANCED WARNING SYSTEM - {PADVWS}	1   53	
DMS CONTROLLER CABINET - {PVMSCB}	1   53	

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION {CADD CELL NAME}	LINE		
	WEIGHT COLOR	CODE LEVEL	
Level 53 Intellegent Transportation System (ITS) To Be Constructed			
TYPE 1 SIGNAL STNADARD - {RMSHL}	1	53	
TYPE 2 SIGNAL STANDARD - {PT2SIG}	1	53	
HAR TRANSMITTER - {PHARTR}	1	53	
SHOULDER DMS - {PVMSSH}	1	53	
OVERHEAD DMS - {PVMS}	1	53	
TEXT FOR LEVEL 53	2	53	<div><div>0.10"</div><div><div></div><div></div></div><div></div></div> DYNAMIC MESSAGE SIGN

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION {CADD CELL NAME}	LINE WEIGHT    CODE COLOR    LEVEL	
Level 54 Signing - To Be Constructed		
GEORGE WASHINGTON SILHOUETTE - {GEO}	$\frac{1}{54}$	
INTERSTATE SHIELD - {ISHLD}	$\frac{2}{54}$	
SEQUENTIAL ARROW SIGN, BOTH - {SASB}	$\frac{0}{54}$	
SEQUENTIAL ARROW SIGN, LEFT - {SASL}	$\frac{0}{54}$	
SEQUENTIAL ARROW SIGN, RIGHT - {SASR}	$\frac{0}{54}$	
SIGN - {P1S1}	$\frac{1}{54}$	
SIGN NOTE FLAG - {SIN}	$\frac{0}{54}$	
SIGN RELOCATION NOTE FLAG - {SRELO}	$\frac{0}{54}$	
SIGN REMOVAL NOTE FLAG - {SRN}	$\frac{0}{54}$	
SR SHIELD - {SRSHLD}	$\frac{1}{54}$	
U.S. ROUTE SHIELD - {USHLD}	$\frac{1}{54}$	
TEXT FOR SIGNS	$\frac{1}{54}$	

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION

LINE

{CADD CELL NAME}

WEIGHT	CODE
COLOR	LEVEL

## Level 55 Landscape Details

LANDSCAPE DETAILS

0
55

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION	LINE	
	WEIGHT	CODE
	COLOR	LEVEL
{CADD CELL NAME}		
Level 56 Text for Level 55		
TEXT FOR LEVEL 55	<div><div>1</div><div>56</div></div>	<div><div>0.10"</div><div>↓</div><div>↑</div><div>PLANTING AREA</div></div>

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION  {CADD CELL NAME}	LINE	
	WEIGHT	CODE
	COLOR	LEVEL

## Level 57 Irrigation Details

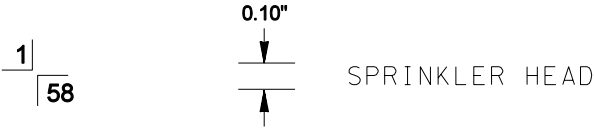
IRRIGATION DETAILS	0
	57

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION  {CADD CELL NAME}	LINE	
	WEIGHT COLOR	CODE LEVEL

Level 58 text for Level 57

TEXT FOR LEVEL 57



# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION

LINE

{CADD CELL NAME}

WEIGHT	CODE
COLOR	LEVEL

Level 59 NOT ASSIGNED

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION

LINE

{CADD CELL NAME}

WEIGHT	CODE
COLOR	LEVEL

## Level 60 Sheet Borders & Sheet Information

DOCUMENTATION SHEET - {DOC}

1
60

INDEX SHEETS - {INDEX}

1
60

INSTALLATION SPECIFICATIONS

CANTILEVER SIGN STRUCTURE SHEET - {CANTIS}

1
60

INSTALLATION SPECIFICATIONS

SIGN BRIDGE SHEET - {SNBRIS}

1
60

LABELS & RED DOTS - {LABELS}

1
60

PLAN SHEET - {PLNHWW}

1
60

PLAN/PROFILE SHEET - {PLPRO}

1
60

POINT FOR SAVING VIEW - {POINT}

1
60

PROFILE SHEET - {PROF}

1
60

QUANTITY TABULATION PREPARATION

ITEMS SHEET - {QNTPRP}

1
60

QUANTITY TABULATION SHEET - {QNTAB}

1
60

QUANTITY TABULATION TRAFFIC

ITEMS SHEET - {QNTTRF}

1
60

RDWY SECT FOR DGN REPORT - {RSDR}

1
60

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION

LINE

{CADD CELL NAME}

WEIGHT | CODE  
COLOR | LEVEL

## Level 60 Sheet Borders & Sheet Information

RIGHT OF WAY SHEET - {RWSHT}

$\frac{1}{60}$

SIGN RELOCATION SPECIFICATION  
SHEET - {SIRELO}

$\frac{1}{60}$

SIGN SPECIFICATION SHEET - {SGNSPC}

$\frac{1}{60}$

SIGN REMOVAL SPECIFICATION SHEET - {SIREMO}

$\frac{1}{60}$

STRUCTURE NOTE SHEET - {STNOTE}

$\frac{1}{60}$

SUPERELEVATION DATA SHEET - {SUPER}

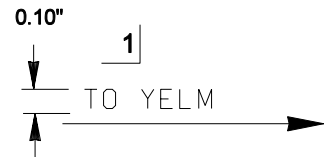
$\frac{1}{60}$

SUMMARY OF QUANTITY SHEET - {SUMQNT}

$\frac{1}{60}$

DESTINATION ARROW

$\frac{2}{1} \frac{0}{60}$





BEGIN/END OF PROJECT/  
CONSTRUCTION ARROW - {BA}

$\frac{2}{1} \frac{0}{60}$











# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION  {CADD CELL NAME}	LINE	
	WEIGHT COLOR	CODE LEVEL
<h2>Level 60 Sheet Borders &amp; Sheet Information</h2>		
<b>WSDOT FLYING "T" LOGO - {TLOGO}</b> This will be placed on R/W and contract plans by Headquarters. It can be used by the District for other plans.	<div>60</div>	
<b>CROSS REFERENCE NOTES</b>	<div>0</div> <div>60</div>	<div>0.175"</div> <div>SEE SHEET - - - -</div>
<b>MATCH LINE</b>	<div>3 0</div> <div>0 60</div>	<div>2</div> <div>MATCH TO SHEET NO. 7</div> <div>0.14"</div>
<b>NORTH ARROW - {NA}</b>	<div>2</div> <div>60</div>	
<b>SCALE BAR 1/20 - {SB20}</b>	<div>5</div> <div>60</div>	<div>( ALL DIMENSIONS TYPICAL )</div> <div>TX=0.12"</div> <div>WT=2</div> <div>2 0</div> <div>0 20 40</div> <div>SCALE IN FEET</div>
<b>SCALE BAR 1/50 - {SB50}</b>	<div>5</div> <div>60</div>	<div>0 50 100</div> <div>SCALE IN FEET</div>
<b>SCALE BAR 1/100 - {SB100}</b>	<div>5</div> <div>60</div>	<div>0 100 200</div> <div>SCALE IN FEET</div>
<b>SCALE BAR 1/500 - {SB500}</b>	<div>5</div> <div>60</div>	<div>0 500 1000</div> <div>SCALE IN FEET</div>

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION	LINE	
{CADD CELL NAME}	WEIGHT	CODE
	COLOR	LEVEL

## Level 60 Sheet Borders & Sheet Information

TRAFFIC MOVEMENT ARROW - {TA}	<div><div>1</div><div>60</div></div>	
TRAFFIC MOVEMENT ARROW LEFT- {TAL}	<div><div>1</div><div>60</div></div>	
TRAFFIC MOVEMENT ARROW LEFT 2- {TAL2}	<div><div>1</div><div>60</div></div>	<div>2</div> 
TRAFFIC MOVEMENT ARROW LEFT 3- {TAL3}	<div><div>1</div><div>60</div></div>	<div>3</div> 
TRAFFIC MOVEMENT ARROW RIGHT - {TAR}	<div><div>1</div><div>60</div></div>	
TRAFFIC MOVEMENT ARROW RIGHT 2- {TAR2}	<div><div>1</div><div>60</div></div>	<div>2</div> 
TRAFFIC MOVEMENT ARROW RIGHT 3 - {TAR3}	<div><div>1</div><div>60</div></div>	<div>3</div> 
TRAFFIC MOVEMENT ARROW OPPOSITE - {TAS}	<div><div>1</div><div>60</div></div>	

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION	LINE
{CADD CELL NAME}	WEIGHT   CODE
	COLOR   LEVEL

## Level 60 Sheet Borders & Sheet Information

CADD FILE INFORMATION  
(VERTICALLY ALONG THE  
LEFT SIDE OF SHEET BORDER)

0 | 60

0.10"  
\$\$\$DESIGN FILE\$\$\$

### CURVE DATA BLOCK

Use "enter data fields"  
to fill in data blocks.

Heading text 0.125"  
Subheading text 0.10"  
Existing data text 0.10"  
New data text 0.10"

1 | PS&E - {CDBPS}  
60

CURVE DATA					
P.I. STATION	DELTA	RADIUS	TANGENT	LENGTH	S

3 |  
2 |  
1 |  
1 |

CURVE DATA				
P.I. STATION	DELTA	RADIUS	TANGENT	LENGTH

ENGLISH

### TOTAL CURVE DATA BLOCK

1 | PS&E - {TCDBPS}  
60

TOTAL CURVE DATA			CURVE DATA				SPIRAL DATA		
P.I. STATION	DELTA	TANGENT	DELTA	RADIUS	LENGTH	S	a	DE	Ls

QUANTITY TABULATION NOTE FLAG - {QTNF}

0 | 60



QUANTITY TABULATION NOTE FLAG -  
CONTINUED {QTNF}

0 | 60



# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION	LINE	
{CADD CELL NAME}	WEIGHT	CODE
	COLOR	LEVEL

Level 61 NOT ASSIGNED

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION

LINE

{CADD CELL NAME}

WEIGHT	CODE
COLOR	LEVEL

Level 62 NOT ASSIGNED

# STANDARD SYMBOLS AND CONVENTIONS

DESCRIPTION

LINE

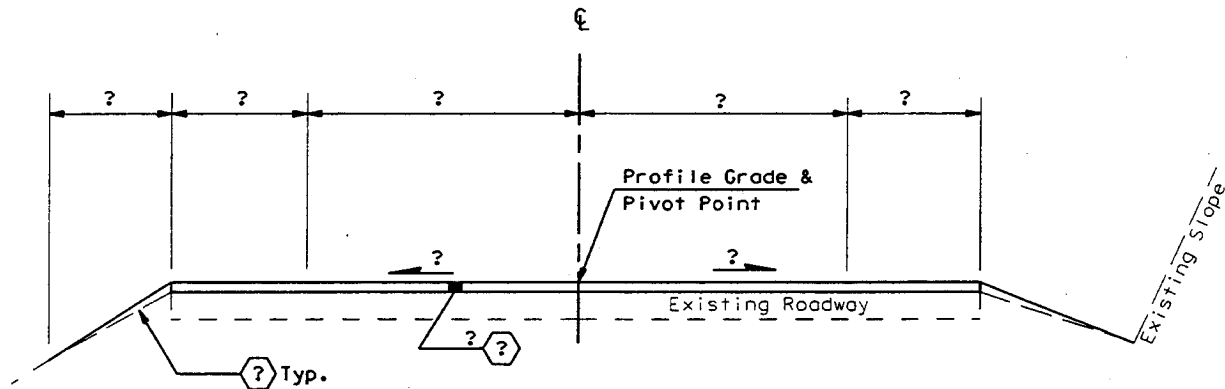
{CADD CELL NAME}

WEIGHT	CODE
COLOR	LEVEL

Level 63 NOT ASSIGNED

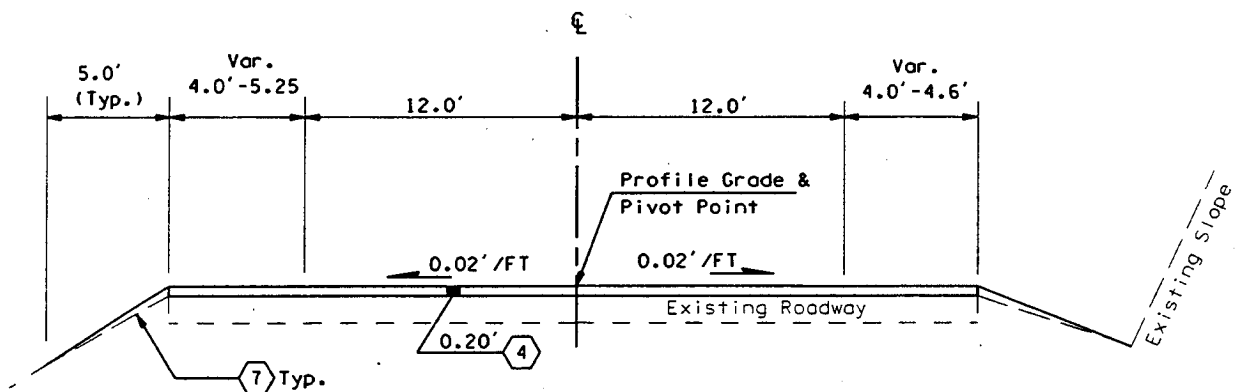
## HOW TO EDIT DETAILS

The following example shows how the "?" can be edited to the desired distance, depth or legend reference:



### ROADWAY SECTION ?

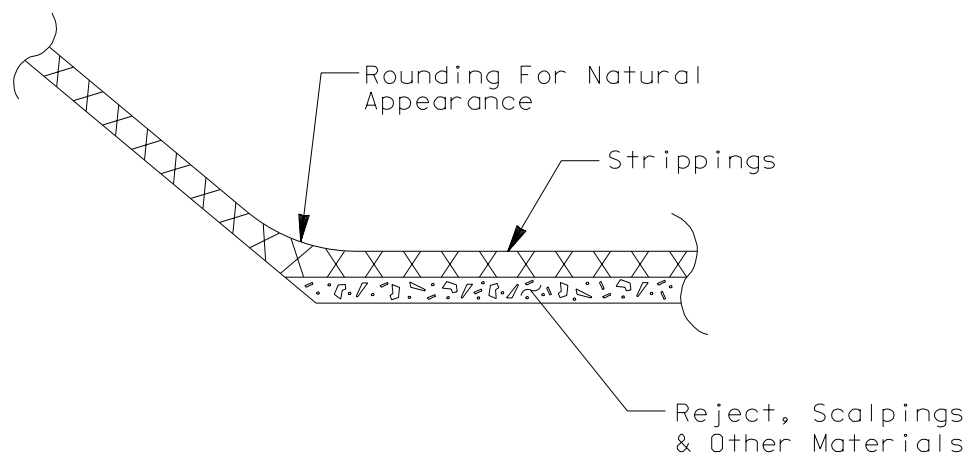
STA. ? TO STA. ?



### ROADWAY SECTION A

STA. 50+00.00 TO STA. 57+50.00

RECLAMATION PLAN  
DETAILS



## PIT OR QUARRY FLOOR DETAIL

PIT OR QUARRY FLOOR DETAIL

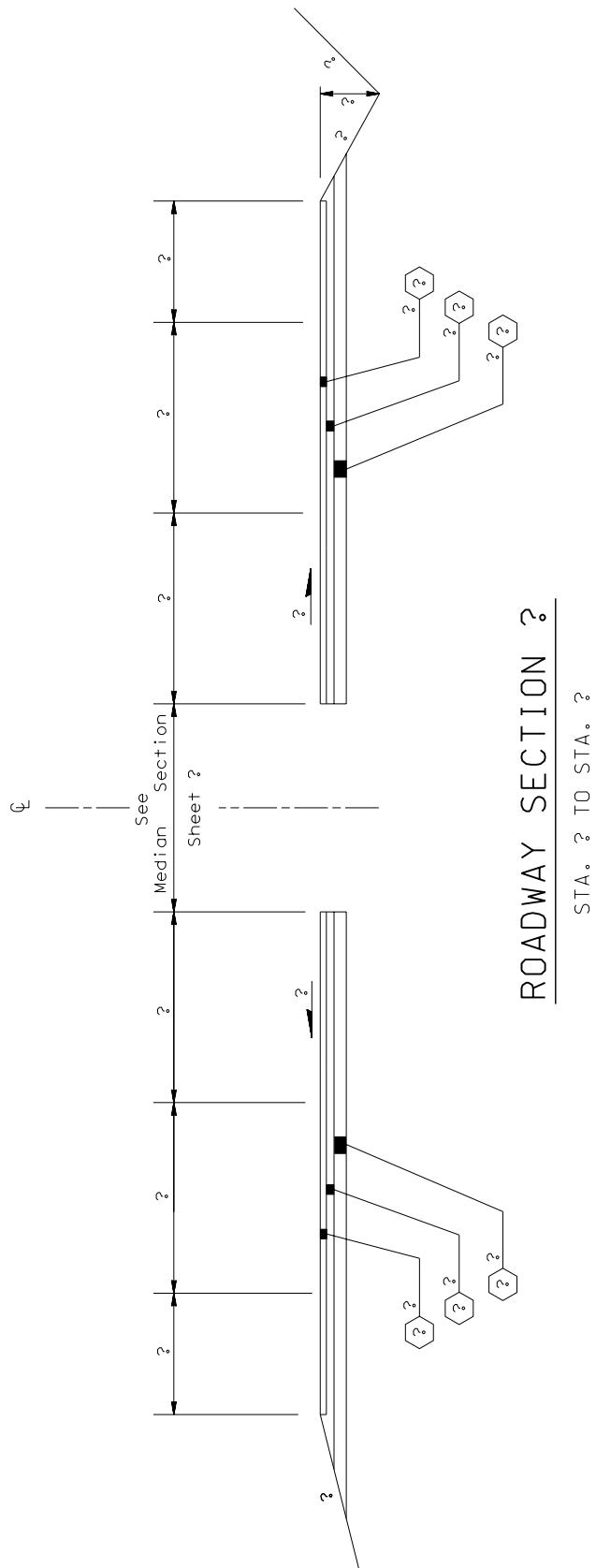
D1

JULY 1994

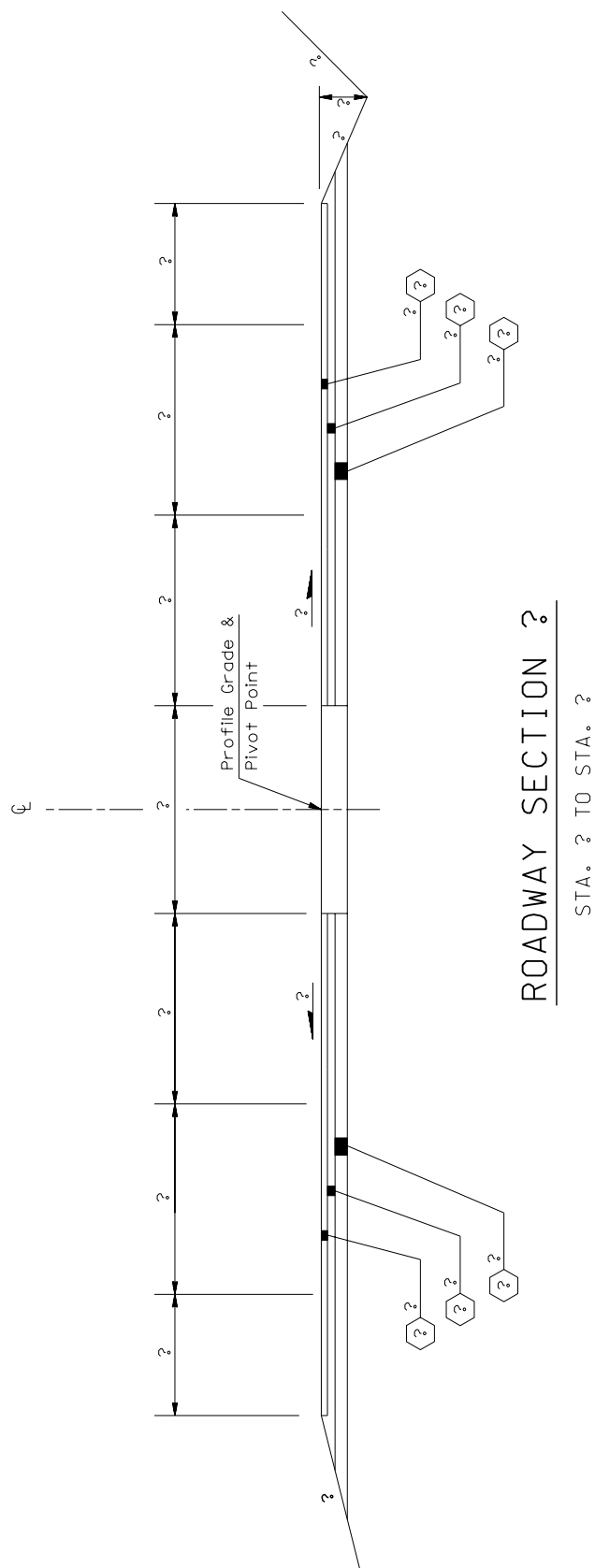
# ROADWAY SECTIONS

# DIVIDED MULTILANE HIGHWAY ROADWAY SECTION

**D11**  
NOV 1997

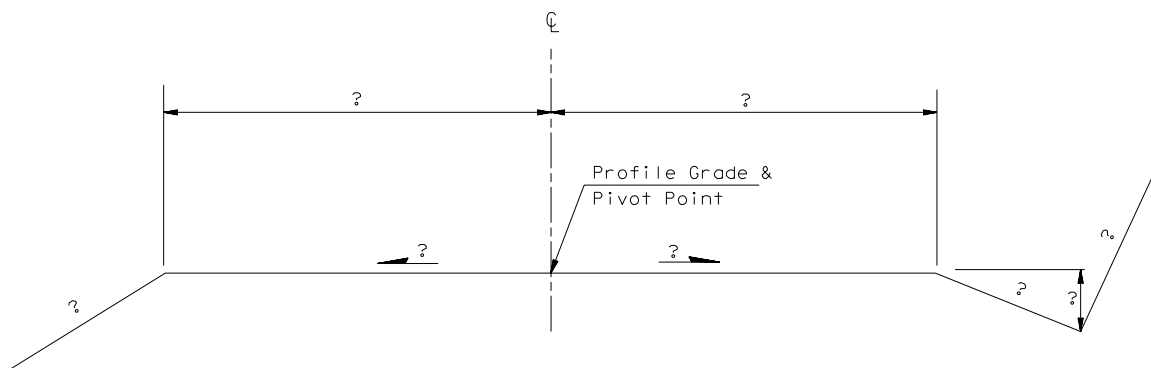


# UNDIVIDED MULTILANE HIGHWAY ROADWAY SECTION



NOTES TO DESIGNERS  
1. MODIFY CENTER SEGMENT AS APPLICABLE.

**D12**  
NOV 1997



## ROADWAY SECTION ?

STA. ? TO STA. ?

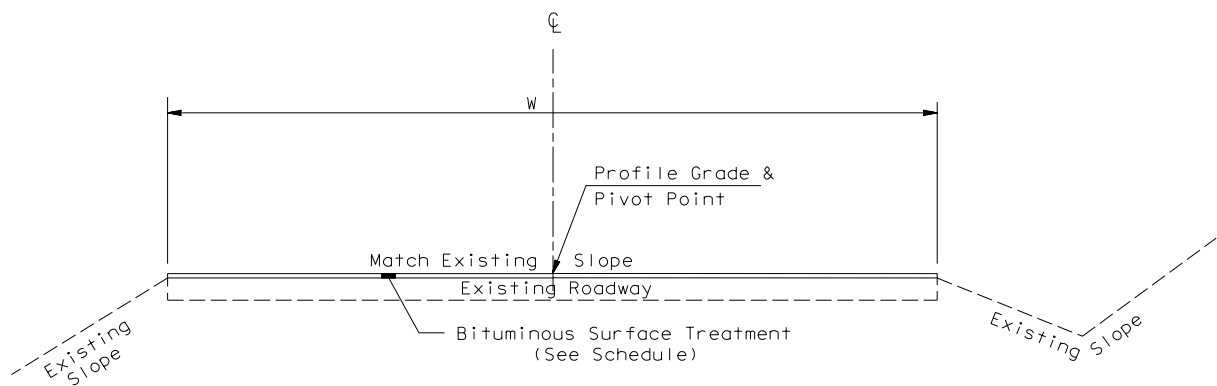
### NOTES TO DESIGNERS

1. MAY BE USED FOR 2 OR MORE LANES.

SUBGRADE SECTION

D15

NOV 1997



## ROADWAY SECTION ?

VARIABLE WIDTH BITUMINOUS SURFACE TREATMENT

SECTION	SR	MP	TO	MP	W	CLASS
?	?	?		?	?	?

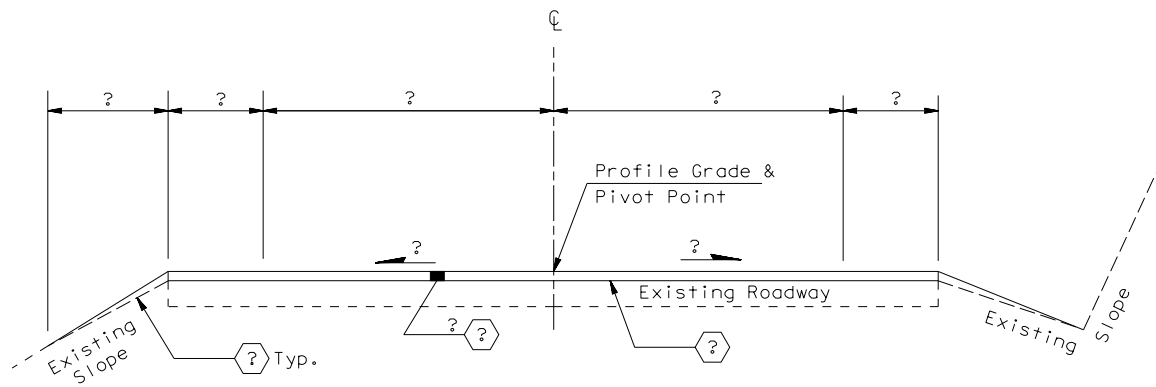
### NOTES TO DESIGNERS

1. MAY BE USED FOR 2 OR MORE LANES.

BST SECTION

D16

NOV 1997



## ROADWAY SECTION ?

STA. ? TO STA. ?

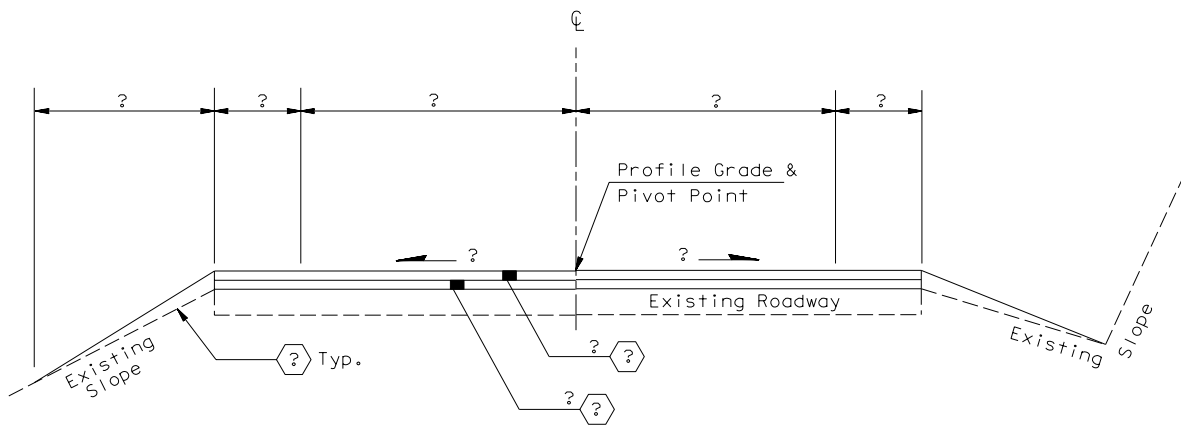
### NOTES TO DESIGNERS

1. MAY BE USED FOR 2 OR MORE LANES
2. LEFT NODE TO BE USED FOR SHOULDER DRESSING
3. RIGHT NODE TO BE USED FOR PRELEVELING

OVERLAY SECTION

D19

NOV 1997



## ROADWAY SECTION ?

STA. ? TO STA. ?

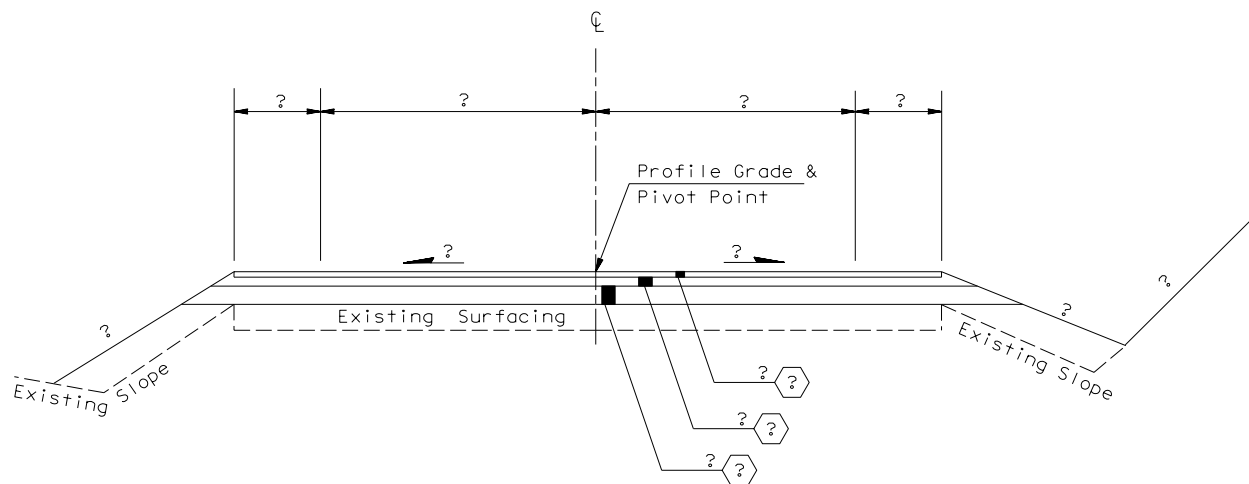
### NOTES TO DESIGNERS

1. MAY BE USED FOR 2 OR MORE LANES.
2. LEFT NODE TO BE USED FOR SHOULDER DRESSING.

SURFACING & PAVING SECTION

D20

NOV 1997



## ROADWAY SECTION ?

STA. ? TO STA. ?

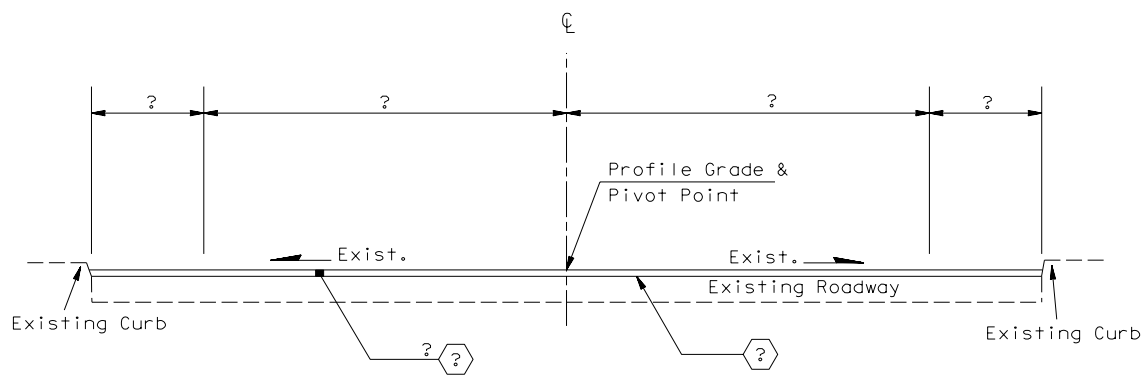
### NOTES TO DESIGNERS

1. MAY BE USED FOR 2 OR MORE LANES.
2. USE LEFT NODE TO DESIGNATE SUBGRADE MATERIAL.

BASE COURSE, TOP COURSE &  
PAVING SECTION

**D21**

NOV 1997



## ROADWAY SECTION ?

STA. ? TO STA. ?

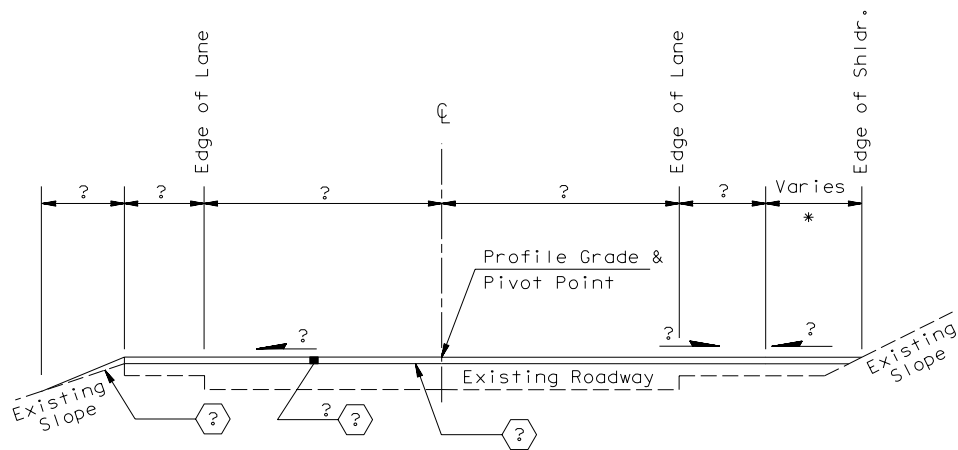
### NOTES TO DESIGNERS

1. MAY BE USED FOR 2 OR MORE LANES
2. RIGHT NODE TO BE USED FOR PRELEVELING

CURBED OVERLAY SECTION

**D22**

JULY 1994



## ROADWAY SECTION ?

STA. ? TO STA. ? \* ?

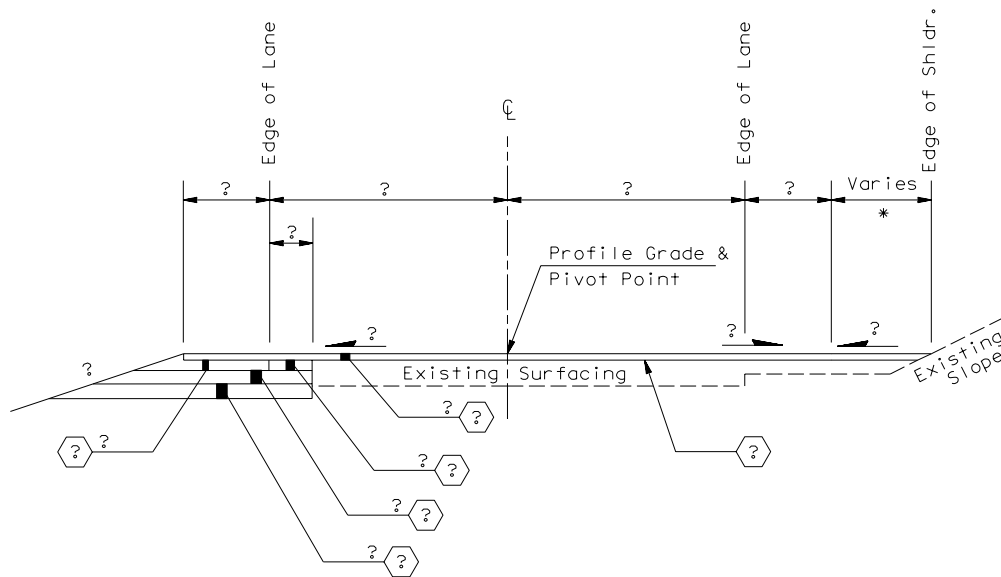
### NOTES TO DESIGNERS

1. MAY BE USED FOR 2 OR MORE LANES
2. LEFT NODE TO BE USED FOR SHOULDER DRESSING
3. RIGHT NODE TO BE USED FOR PRELEVELING

OVERLAY SECTION - NO DITCH

D23

NOV 1997



## ROADWAY SECTION ?

STA. ? TO STA. ? \* ?

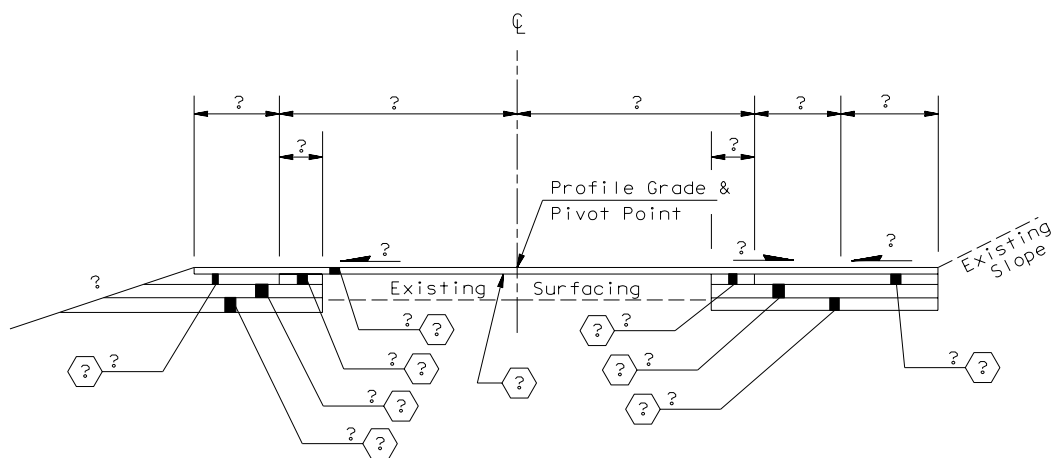
### NOTES TO DESIGNERS

1. MAY BE USED FOR 2 OR MORE LANES
2. NODE ON RIGHT, WITH ARROW, TO BE USED FOR PRELEVELING
3. USE SAME SECTION FOR LANE AND SHOULDER WHEN LANE WIDENING IS LESS THAN 10 FEET

OVERLAY WITH WIDENING &  
SHOULDER RECONSTRUCTION

D24

NOV 1997



## ROADWAY SECTION ?

STA. ? TO STA. ?

### NOTES TO DESIGNERS

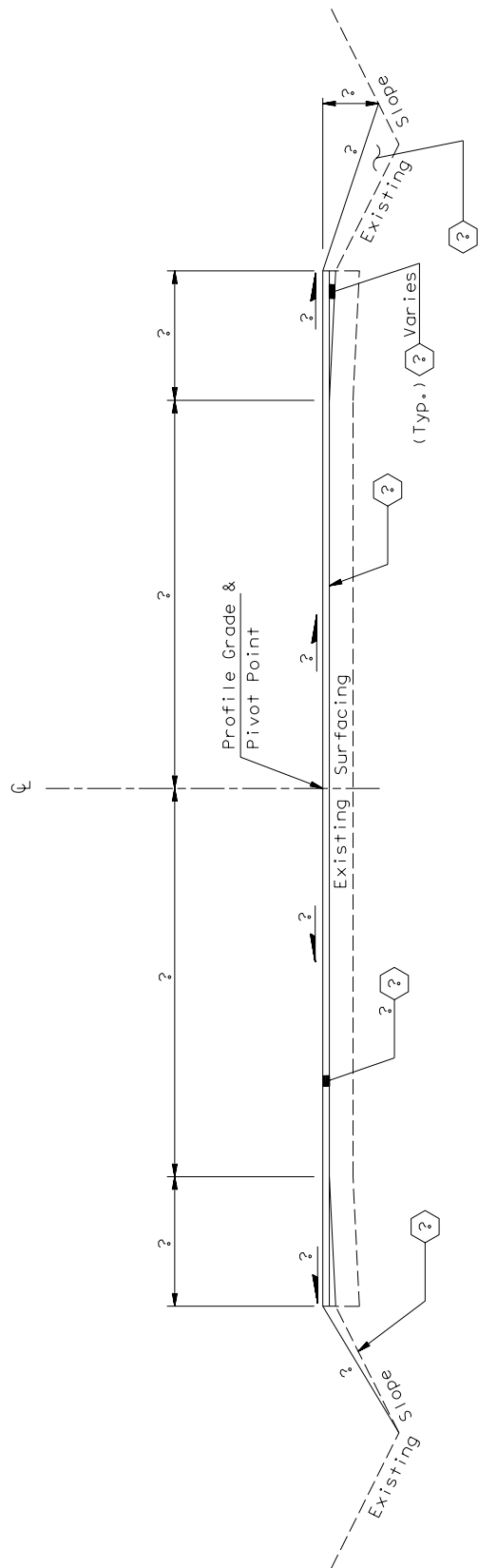
1. MAY BE USED FOR 2 OR MORE LANES
2. NODE IN CENTER, WITH ARROW, TO BE USED FOR PRELEVELING
3. USE SAME SECTION FOR LANE AND SHOULDER WHEN LANE WIDENING IS LESS THAN 10 FEET

OVERLAY WITH WIDENING &  
SHOULDER RECONSTRUCTIONS

D25

NOV 1997

# OVERLAY WITH SHOULDER SLOPE ADJUSTMENT



## ROADWAY SECTION ?

STA. ? TO STA. ?

### NOTES TO DESIGNERS

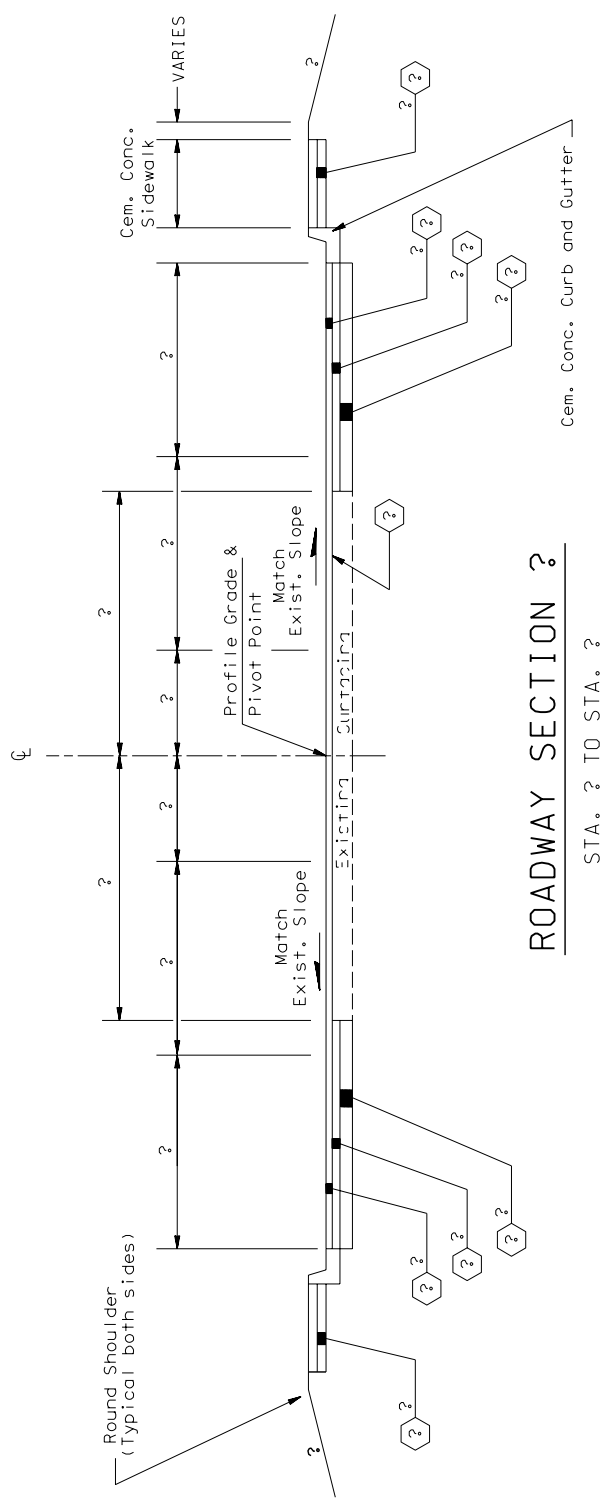
1. LEFT NODE TO BE USED FOR SHOULDER DRESSING
2. CENTER NODE, WITH ARROW, DESIGNATES PRELEVELING.
3. RIGHT NODE USED TO DESIGNATE SUBGRADE MATERIAL.

D26

NOV 1997

WIDENING FOR CHANNELIZATION  
WITH CURB, GUTTER AND SIDEWALK

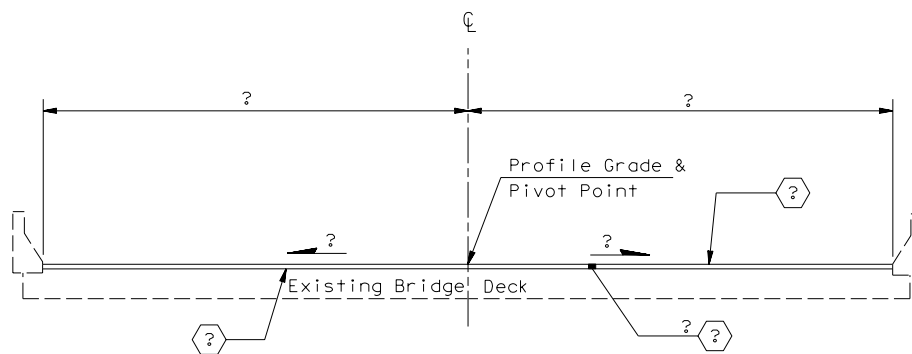
D27  
AUG. 2001



ROADWAY SECTION ?

STA. ? TO STA. ?

NOTES TO DESIGNERS  
1. CENTER NODE, WITH ARROW, DESIGNATES PRELEVELING.



## ROADWAY SECTION ?

BRIDGE: ?/?

### NOTES TO DESIGNERS

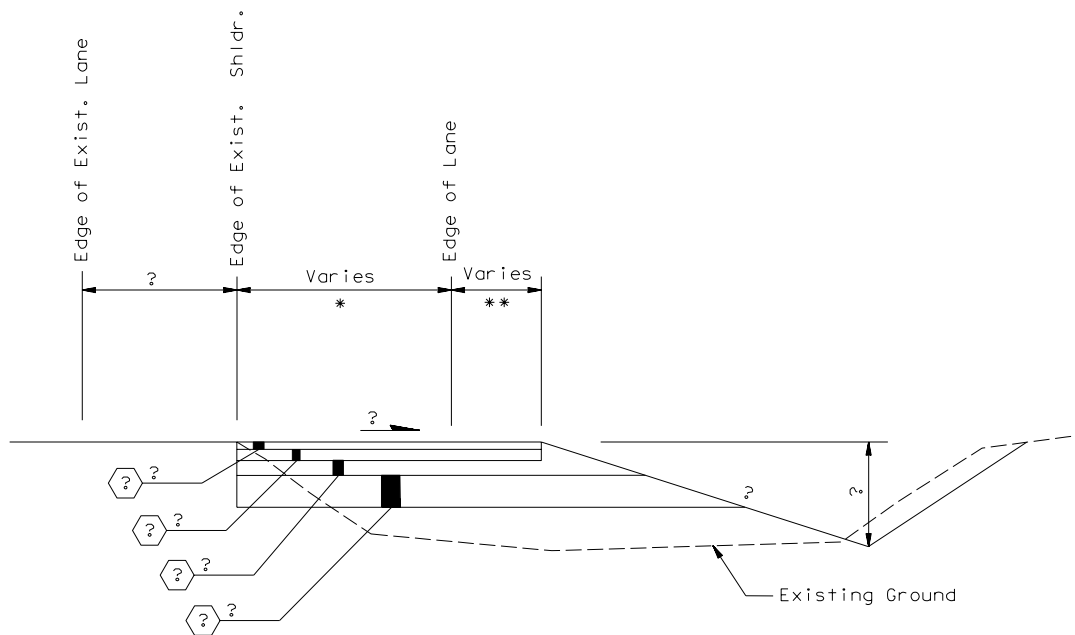
1. MAY BE USED FOR 2 OR MORE LANES
2. (SHOWN) TYPICAL ACP OVERLAY WITH MEMBRANE AND FOG SEAL.
3. (ALTERNATE) CONCRETE OVERLAY (NO MEMBRANE OR FOG SEAL) WITH SCARIFICATION. DELETE UPPER NODE (WHICH DENOTES FOG SEAL).

BRIDGE DECK OVERLAY

**D31**

NOV 1997

SHOULDER  
SECTIONS



### ROADWAY SECTION ?

STA. ? TO STA. ?	* ?	** ?
STA. ? TO STA. ?	* ?	** ?
STA. ? TO STA. ?	* ?	** ?
STA. ? TO STA. ?	* ?	** ?

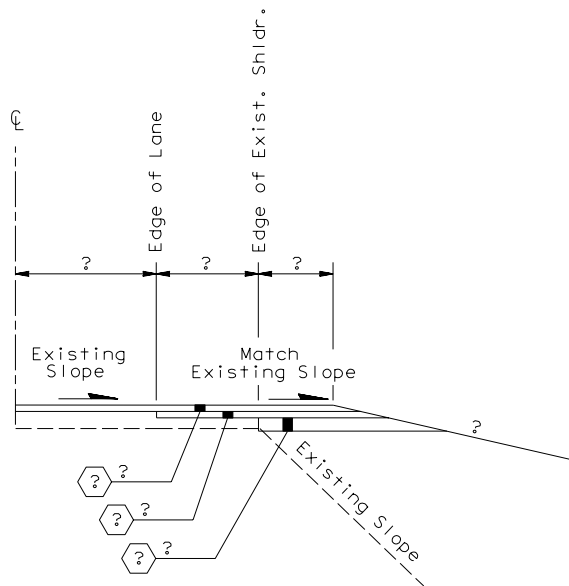
#### NOTES TO DESIGNERS

1. RIGHT NODE, WITH ARROW, DESIGNATES GEOTEXTILE FABRIC.
2. USE THIS SECTION FOR ADDITION OF A LANE.

SHOULDER WIDENING

D41

NOV 1997



## ROADWAY SECTION ?

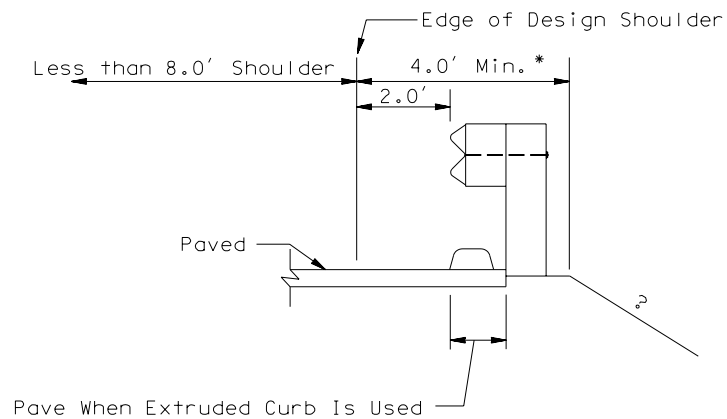
STA. ? TO STA. ?

### NOTES TO DESIGNERS

1. USE LOWER NODE TO DESIGNATE SUBGRADE MATERIAL.

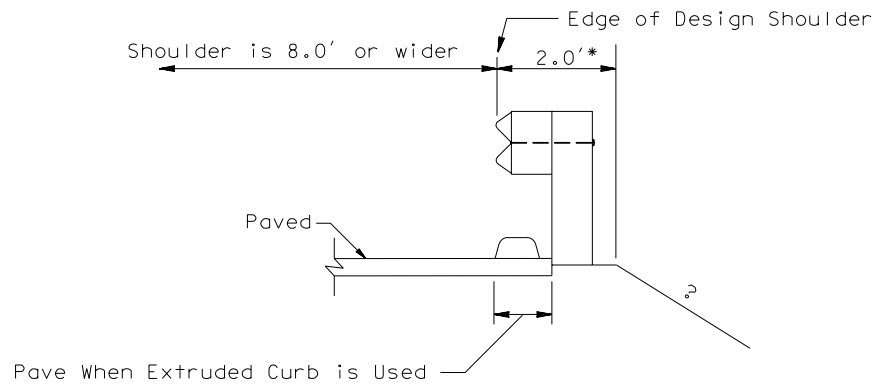
SHOULDER WIDENING FOR  
CHANNELIZATION

**D42**  
NOV 1997



\* See Standard Plan for embankment widening at guardrail terminals.

## SHOULDER WIDENING FOR GUARDRAIL DETAIL



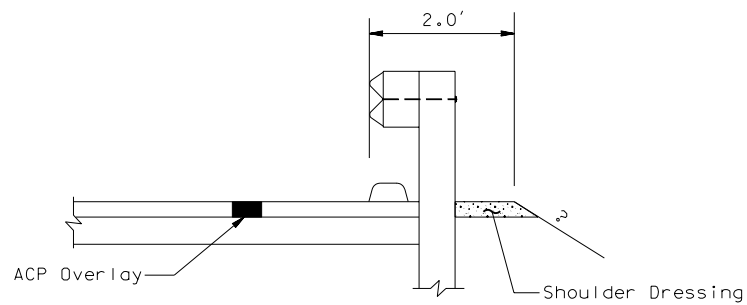
\*See Standard Plan for embankment widening at guardrail terminals.

## SHOULDER WIDENING FOR GUARDRAIL DETAIL

SHOULDER WIDENING FOR  
GUARDRAIL - SHOULDER IS 8' OR WIDER

D44

NOV 1997

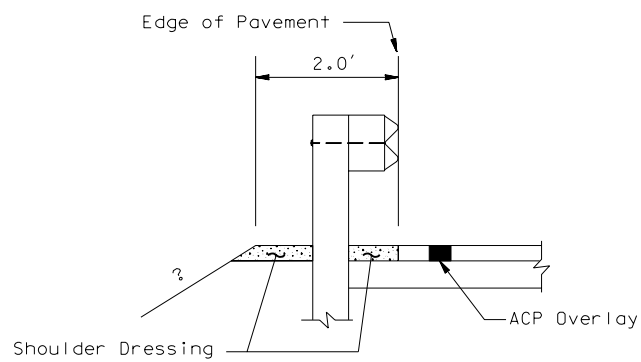


HIGHWAY OVERLAY WITH NEW CURB  
 NEW OR EXISTING GUARDRAIL  
 (PAVE TO POST)

---

HIGHWAY OVERLAY - NEW CURB  
 NEW OR EXISTING GUARDRAIL

**D48**  
 JULY 2001

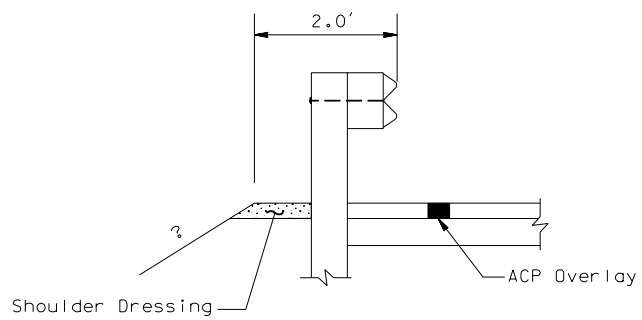


HIGHWAY OVERLAY  
EXISTING GUARDRAIL  
(PAVE TO GUARDRAIL FACE)

---

HIGHWAY OVERLAY  
EXISTING GUARDRAIL

**D49**  
JULY 2001



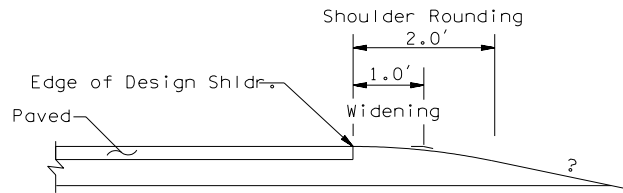
HIGHWAY OVERLAY  
NEW GUARDRAIL  
(PAVE TO POST)

---

HIGHWAY OVERLAY NEW GUARDRAIL

**D50**

JULY 2001



## SHOULDER ROUNDING DETAIL

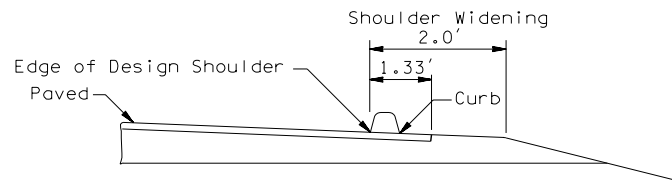
### NOTES TO DESIGNERS

1. SHOULDER ROUNDING REQUIRED WHEN SLOPE IS STEEPER THAN 4:1.

SHOULDER ROUNDING DETAIL

**D51**

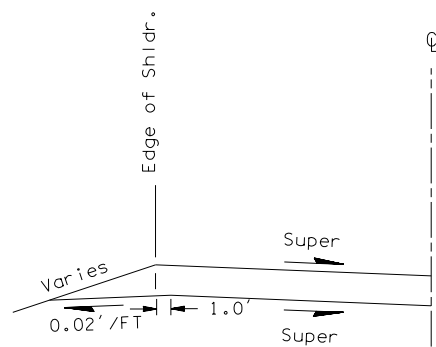
NOV 1997



ASPHALT CONCRETE CURB  
PLACEMENT DETAIL

ASPHALT CONCRETE CURB  
PLACEMENT DETAIL

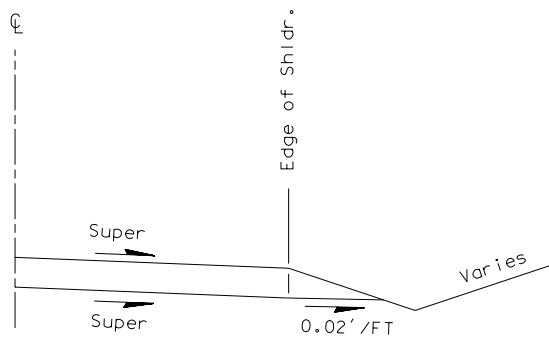
**D52**  
NOV 1997



## SHOULDER DESIGN OUTSIDE OF CURVE

SHOULDER DESIGN FOR  
OUTSIDE OF CURVE

**D57**  
JULY 1994



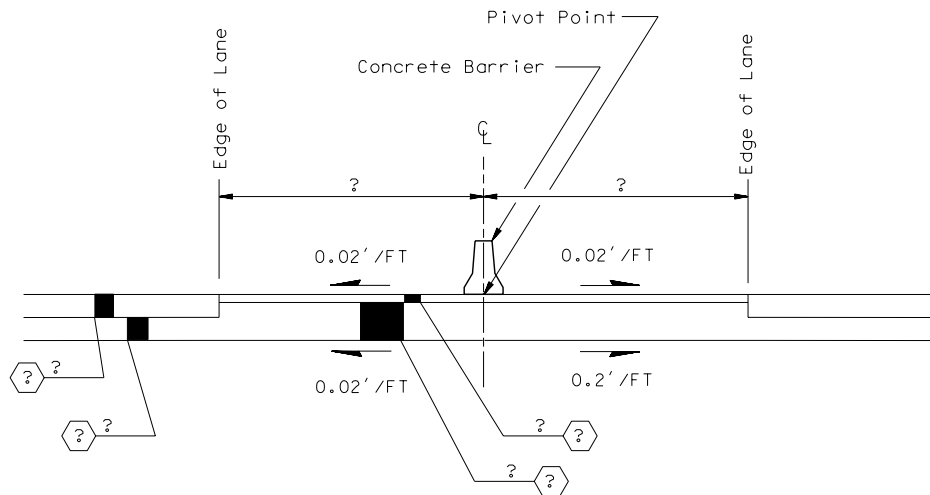
## SHOULDER DESIGN INSIDE OF CURVE

SHOULDER DESIGN FOR  
INSIDE OF CURVE

D58

JULY 1994

MEDIAN  
SECTIONS



## CROWNED MEDIAN SECTION

STA. ? TO STA. ?

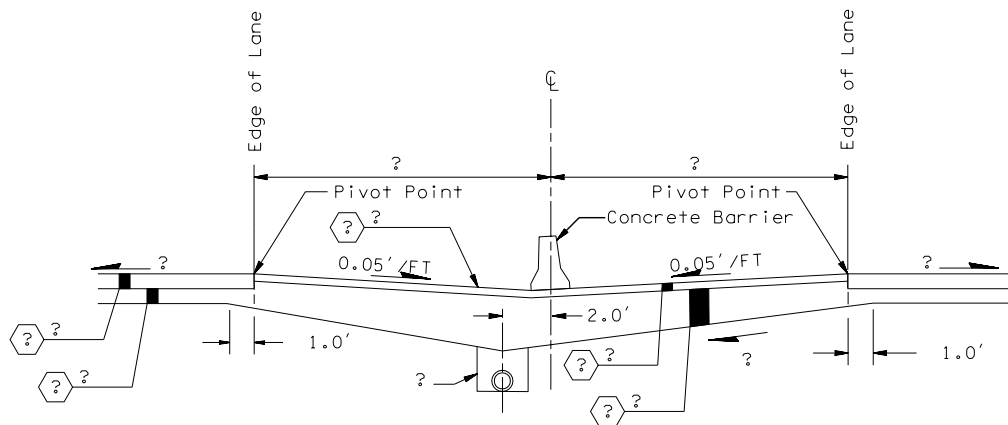
### NOTES TO DESIGNERS

1. SEE DESIGN MANUAL FOR MEDIAN WIDTHS.

CROWNED MEDIAN SECTION

**D61**

NOV 1997



## PAVED DEPRESSED MEDIAN SECTION

STA. ? TO STA. ?

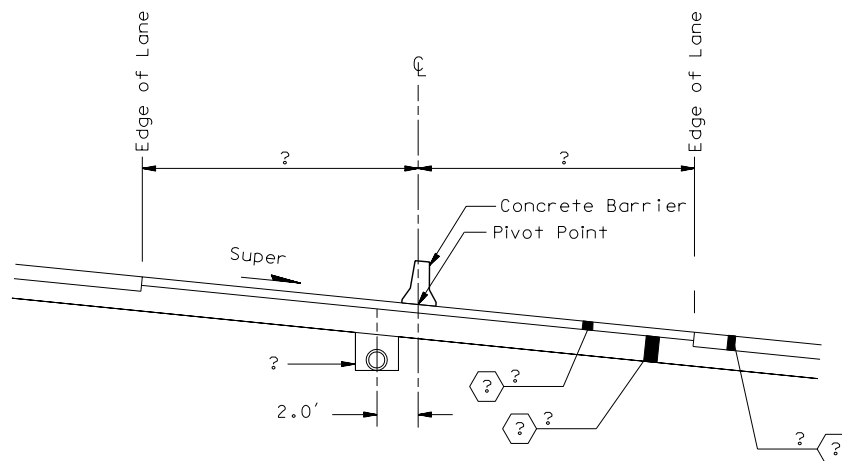
### NOTES TO DESIGNERS

1. SEE DESIGN MANUAL FOR MEDIAN WIDTH.
2. SEE DESIGN MANUAL FOR DIRECTION OF PAVEMENT SLOPE.
3. SEE DESIGN MANUAL FOR SUBGRADE SLOPE.
4. DRAINAGE MAY BE LOCATED LT. OR RT.

PAVED DEPRESSED MEDIAN SECTION

D62

NOV 1997



## MEDIAN TREATMENT ON CURVES

STA. ? TO STA. ?

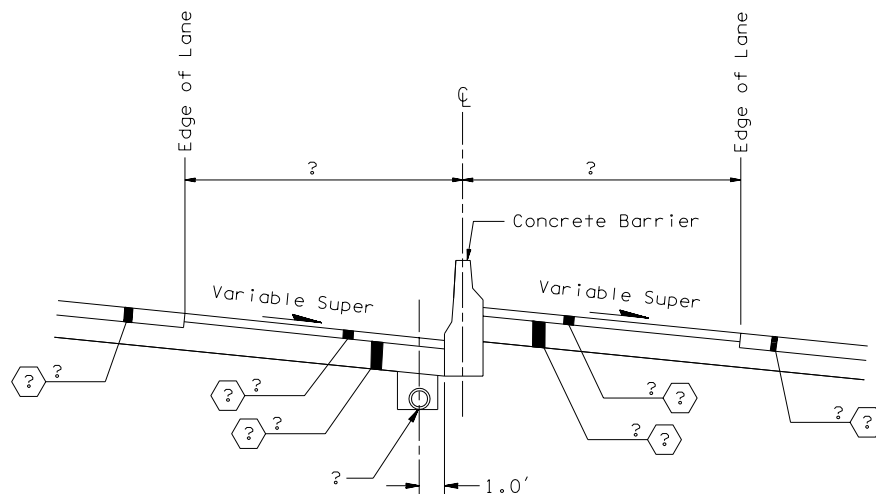
### NOTES TO DESIGNERS

1. SEE DESIGN MANUAL FOR MEDIAN WIDTHS AND SUPER RATES.
2. PRECAST BARRIER IS NOT ACCEPTABLE WHEN SUPER RATE EXCEEDS 8%.

MEDIAN TREATMENT  
ON CURVES

**D65**

NOV 1997



## MEDIAN TREATMENT ON CURVES

STA. ? TO STA. ?

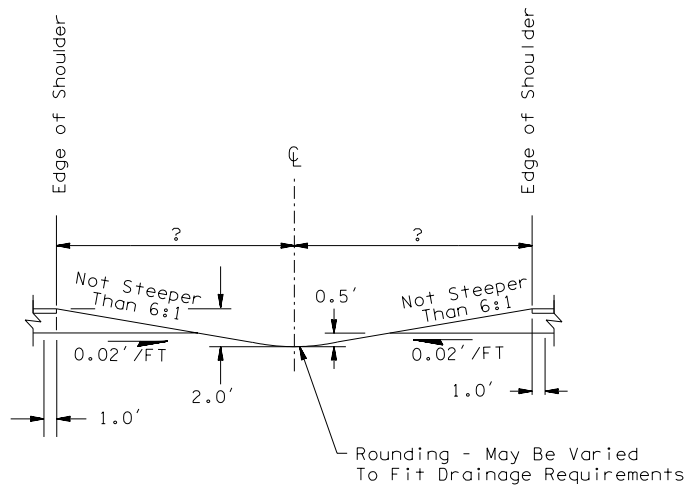
### NOTES TO DESIGNERS

1. ALTERNATE DESIGN - NO FIXED PIVOT POINT.
2. SEE DESIGN MANUAL FOR MEDIAN WIDTHS.
3. ADD FOOTING UNDER BARRIER IF REQUIRED BY DESIGN CONSIDERATIONS.

MEDIAN TREATMENT  
ON CURVES

**D66**

NOV 1997



## UNPAVED MEDIAN SECTION

STA. ? TO STA. ?

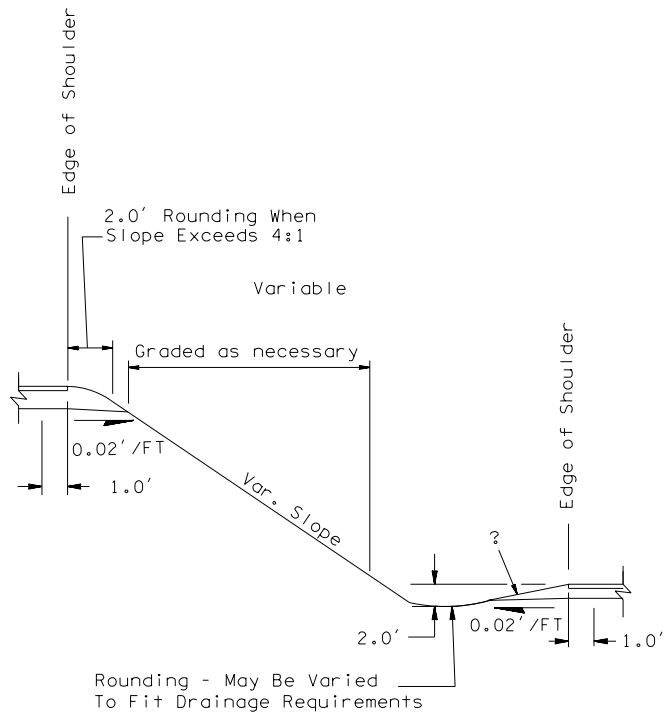
### NOTES TO DESIGNERS

1. SEE DESIGN MANUAL FOR SHOULDER AND MEDIAN WIDTHS.
2. SEE DESIGN MANUAL FOR SUBGRADE BREAK REQUIREMENTS.
3. SEE DESIGN MANUAL FOR DIRECTION OF SHOULDER SLOPE.

UNPAVED MEDIAN SECTION

**D69**

NOV 1997



## INDEPENDENT ALIGNMENT MEDIAN SECTION

STA. ? TO STA. ?

### NOTES TO DESIGNERS

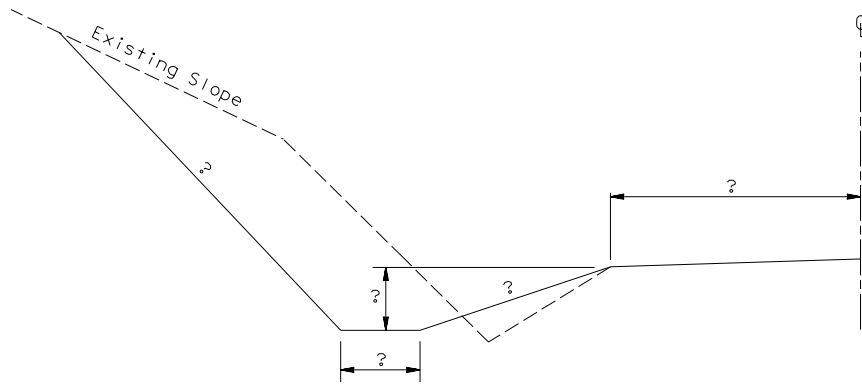
1. SEE DESIGN MANUAL FOR SHOULDER SLOPE AND MEDIAN WIDTH.
2. SEE DESIGN MANUAL FOR MEDIAN TREATMENT OPTIONS.
3. SEE DESIGN MANUAL FOR SUBGRADE BREAK REQUIREMENTS.
4. SEE DESIGN MANUAL FOR DIRECTION OF SHOULDER SLOPE.

INDEPENDENT ALIGNMENT  
MEDIAN SECTION

**D71**

NOV 1997

DITCH  
SECTIONS

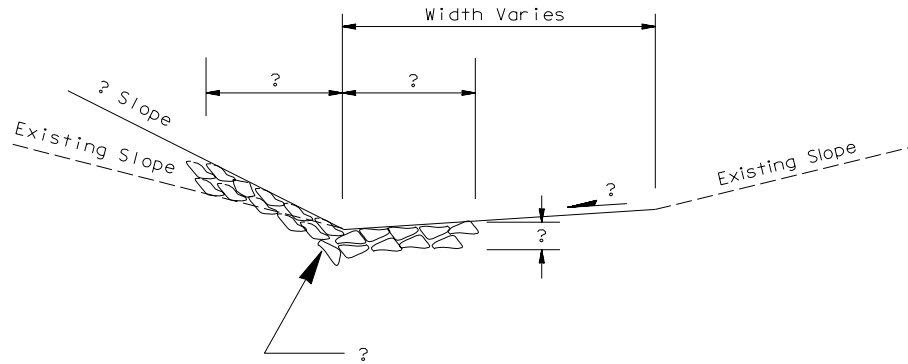


FLAT BOTTOM DITCH SECTION

FLAT BOTTOM DITCH SECTION

**D81**

NOV 1997



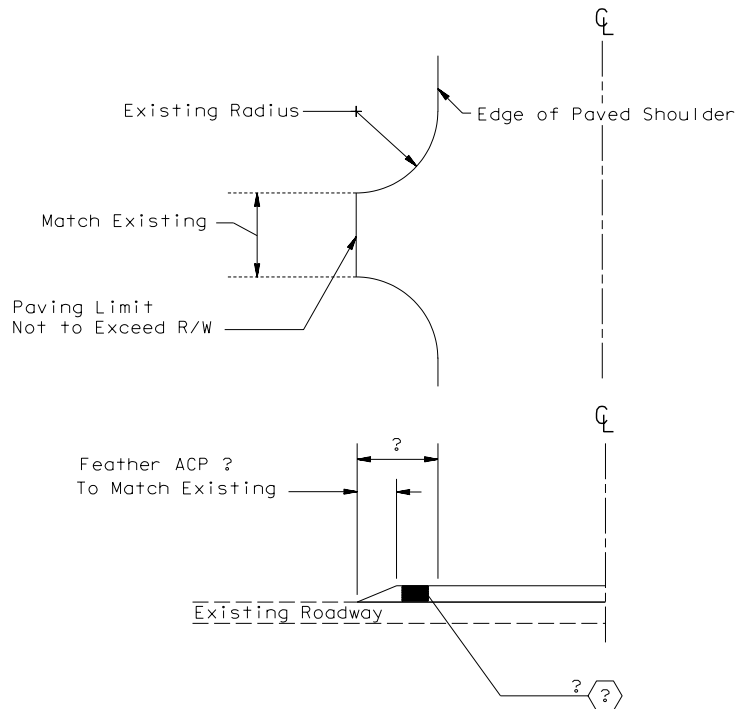
ROCK LINED DITCH SECTION

ROCK LINED DITCH SECTION

D82

NOV 1997

## APPROACHES



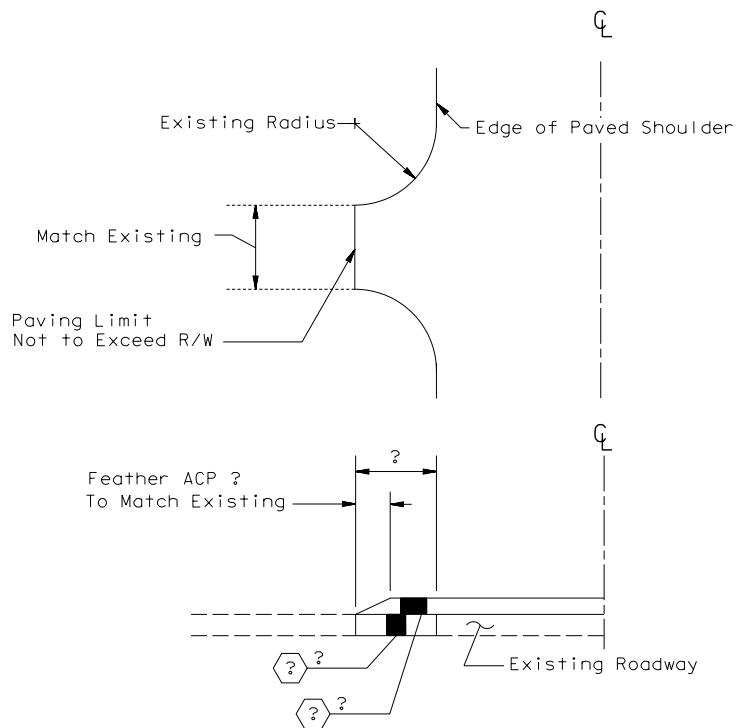
## ROAD APPROACH PAVING DETAIL ?

### NOTES TO DESIGNERS

1. USE WHEN OVERLAYING AN EXISTING ROAD APPROACH.

ROAD APPROACH  
PAVING DETAIL

**D91**  
NOV 1997



## ROAD APPROACH PAVING DETAIL ?

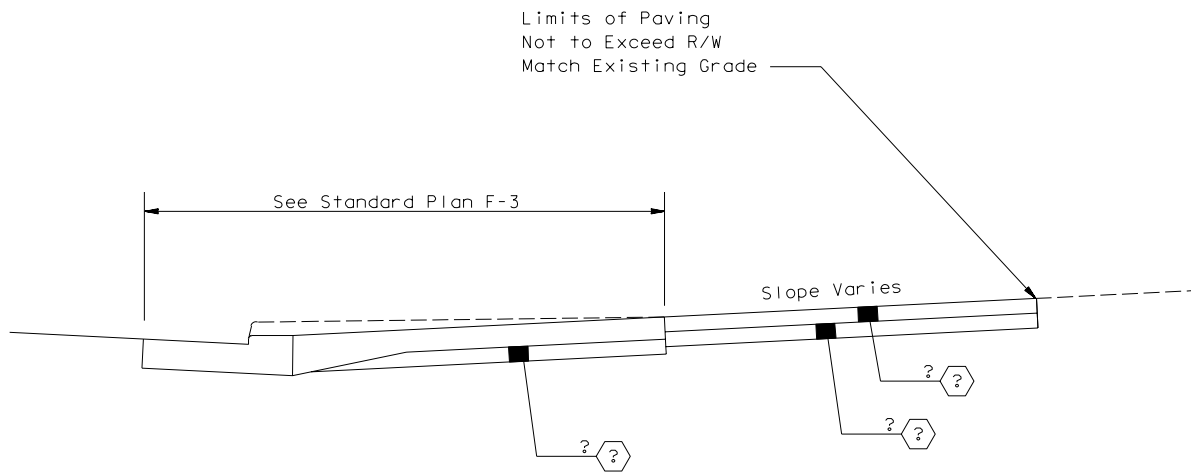
### NOTES TO DESIGNERS

1. USE WHEN OVERLAYING AN EXISTING ROAD APPROACH.

ROAD APPROACH  
PAVING DETAIL

**D92**  
NOV 1997





## APPROACH DETAIL ?

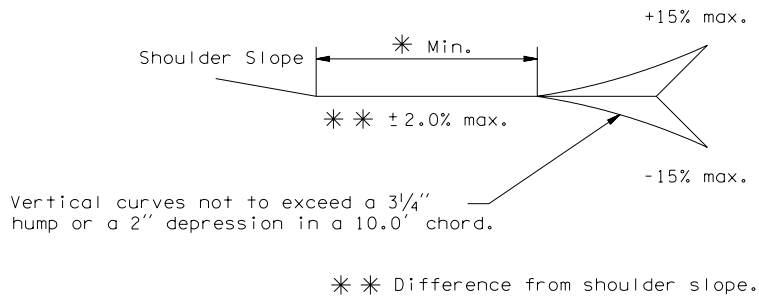
(SEE STANDARD PLAN)

APPROACH SCHEDULE				
STATION	WIDTH	ASPHALT CONC. APPROACH CL. ? (+ton)	CRUSHED SURFACING TOP COURSE (+ton)	CEMENT CONC. APPROACH ?-DAY (S.Y.)

APPROACH DETAIL & SCHEDULE

**D97**

NOV 1997



### APPROACH PROFILE

Sta.	Lt./Rt.	*

### NOTES TO DESIGNERS

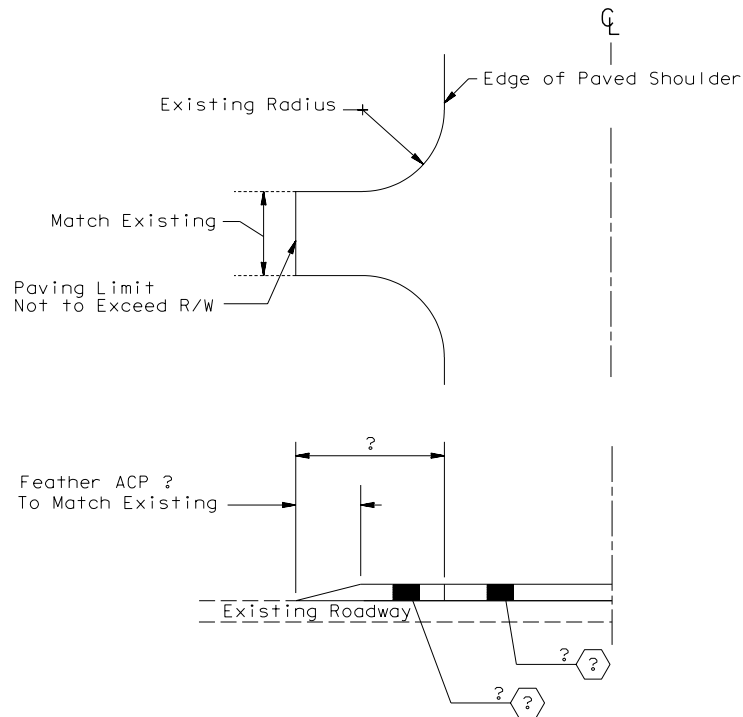
1. USE WHEN INDIVIDUAL PROFILES ARE NOT PROVIDED FOR EACH APPROACH.
2. SEE DESIGN MANUAL FOR APPROACH TYPE AND LENGTH OF TANGENT BETWEEN SHOULDER SLOPE AND VERTICAL CURVE..

APPROACH PROFILE

**D98**

JULY 1994

# INTERSECTIONS



## INTERSECTION PAVING DETAIL ?

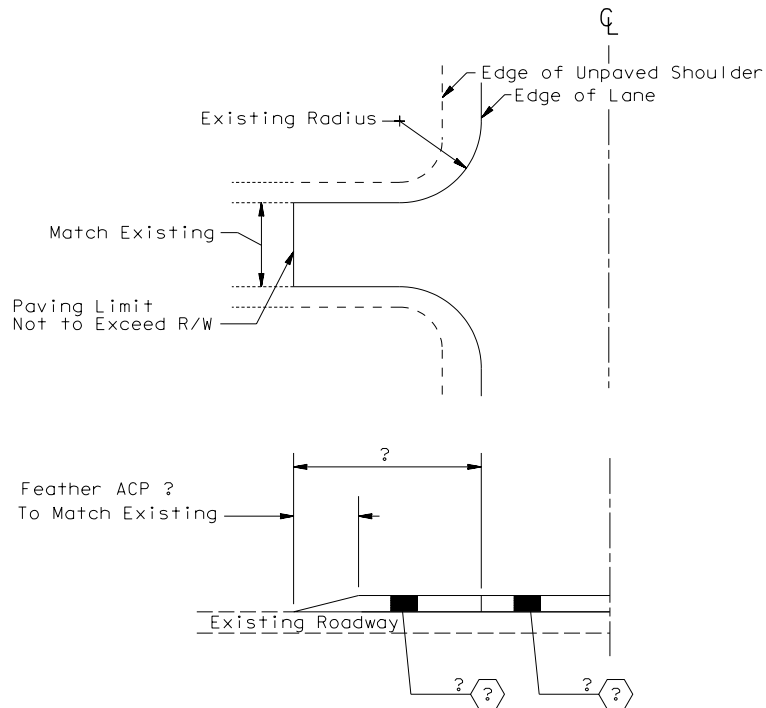
### NOTES TO DESIGNERS

1. USE WHEN OVERLAYING AN EXISTING INTERSECTION - SHOULDERS TO BE PAVED.

INTERSECTION PAVING DETAIL

**D101**

NOV 1997



## INTERSECTION PAVING DETAIL ?

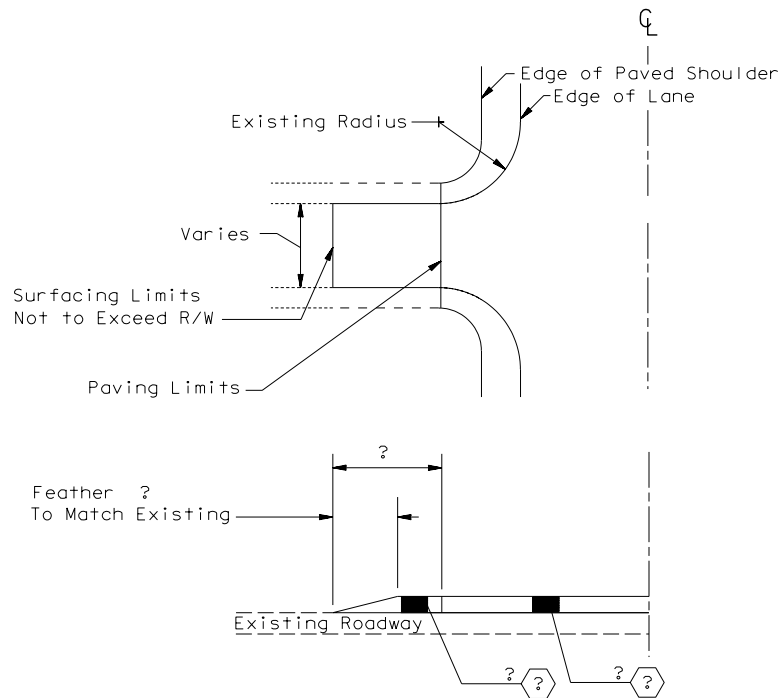
### NOTES TO DESIGNERS

1. USE WHEN OVERLAYING AN EXISTING INTERSECTION - SHOULDERS NOT PAVED.

INTERSECTION PAVING DETAIL

**D102**

NOV 1997



## INTERSECTION PAVING DETAIL ?

### NOTES TO DESIGNERS

1. USE WHEN GRANULAR MATERIAL IS TO BE PLACED ON INTERSECTING ROAD.

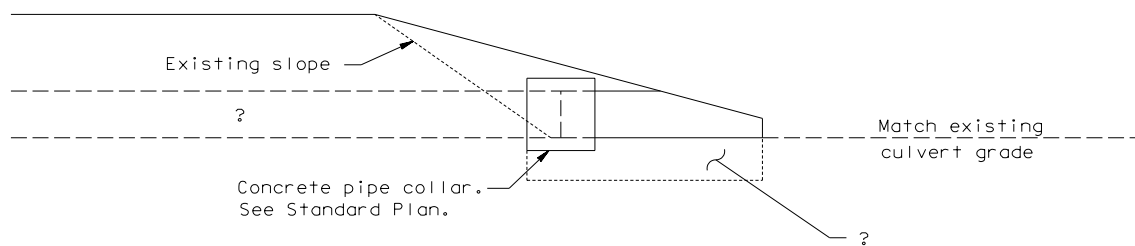
INTERSECTION PAVING DETAIL

**D103**

NOV 1997



DRAINAGE  
DETAILS

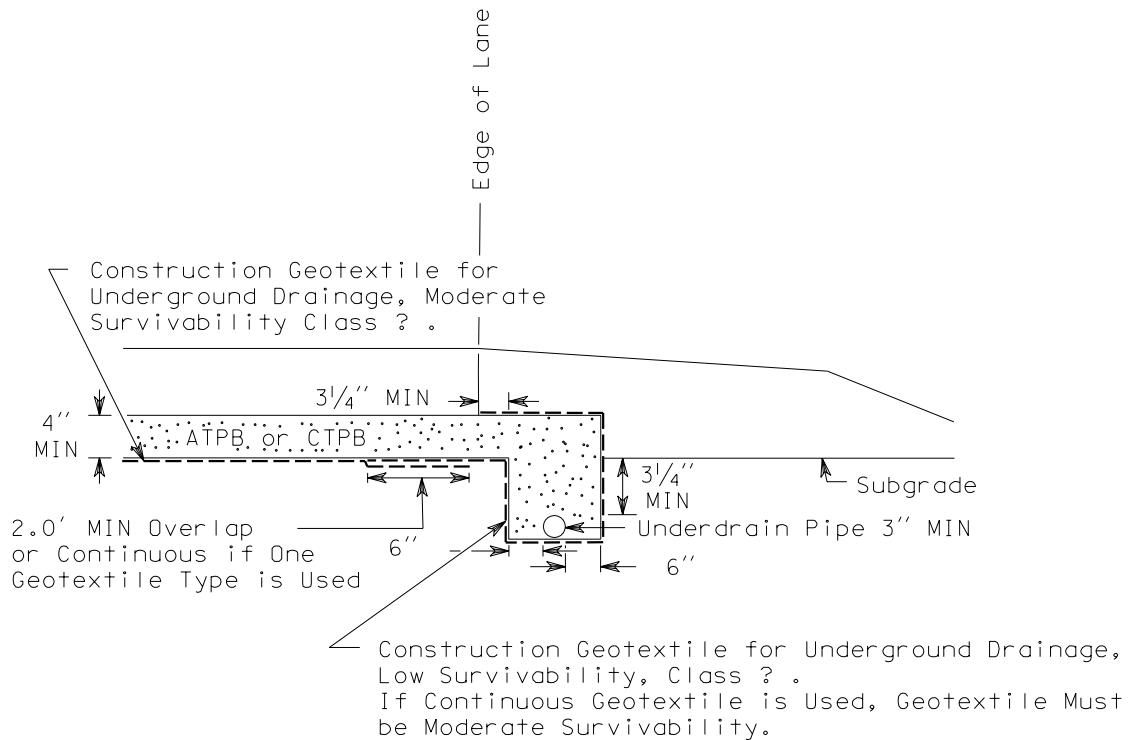


## CULVERT EXTENSION DETAIL

CULVERT EXTENSION DETAIL

**D124**

NOV 1997

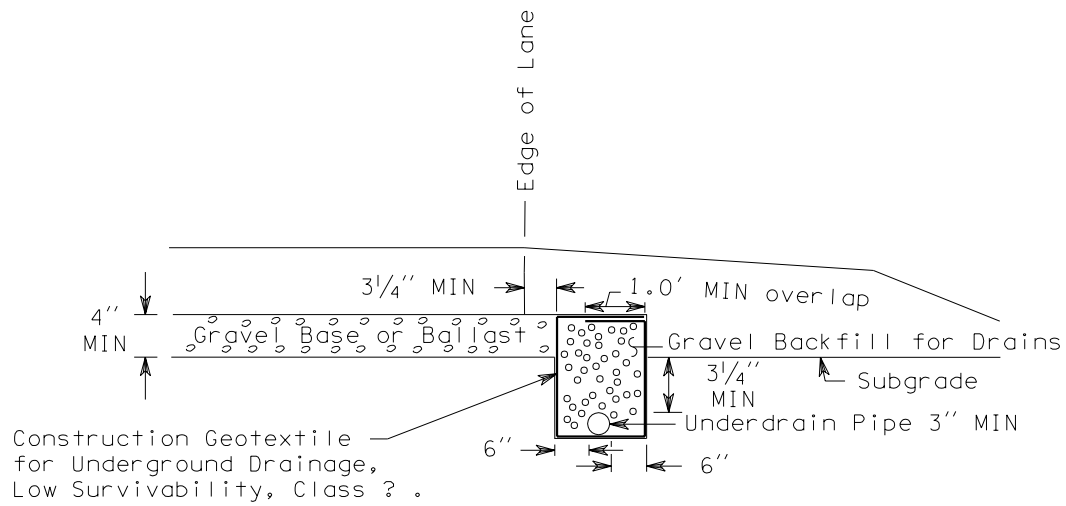


## GEOTEXTILE WRAPPED LONGITUDINAL DRAIN FOR PERMEABLE BASES

GEOTEXTILE WRAPPED LONGITUDINAL  
DRAIN FOR PERMEABLE BASES

**D127**

NOV 1997

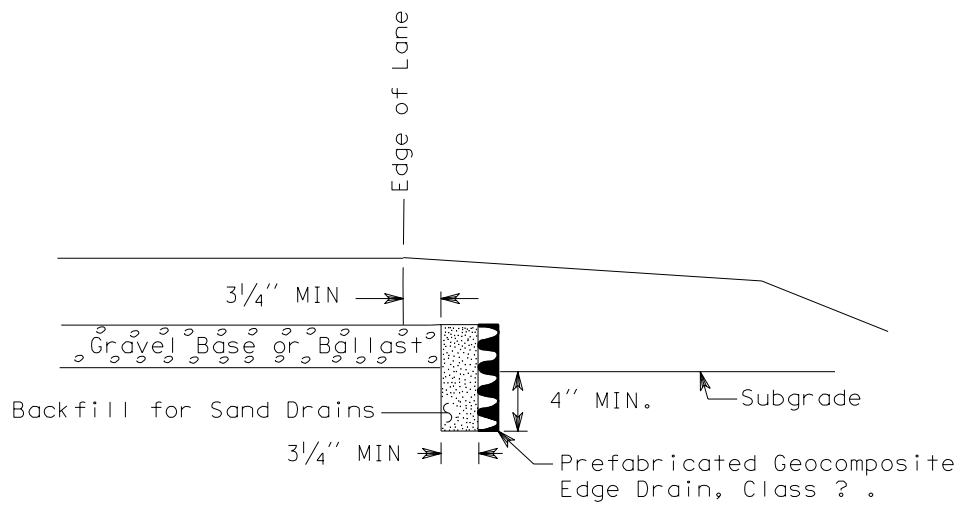


## GEOTEXTILE WRAPPED LONGITUDINAL EDGE DRAIN

GEOTEXTILE WRAPPED  
LONGITUDINAL EDGE DRAIN

**D128**

NOV 1997

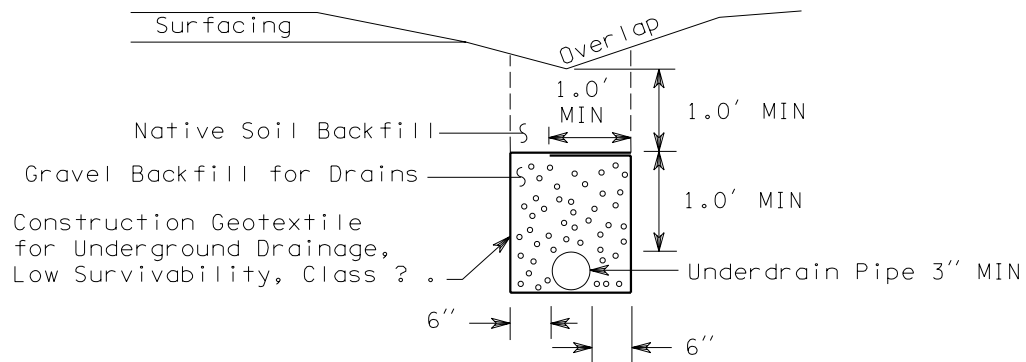


## PREFABRICATED GEOCOMPOSITE EDGE DRAIN

PREFABRICATED GEOCOMPOSITE  
LONGITUDINAL EDGE DRAIN

**D129**

NOV 1997

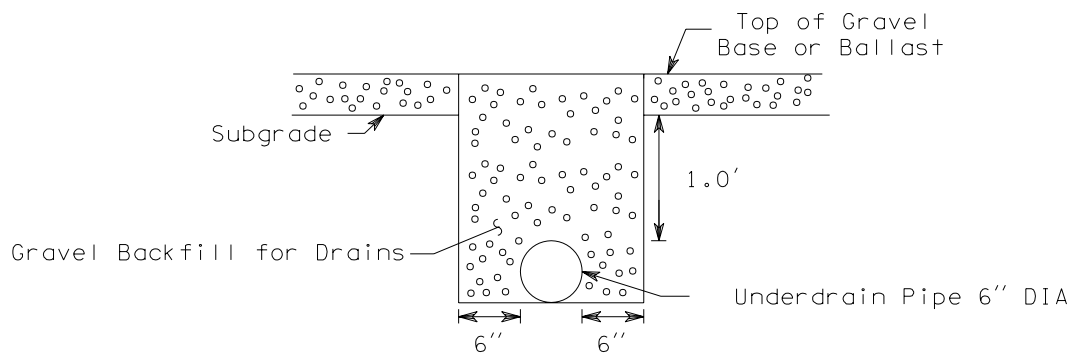


## GEOTEXTILE WRAPPED DITCH SUBGRADE DRAIN

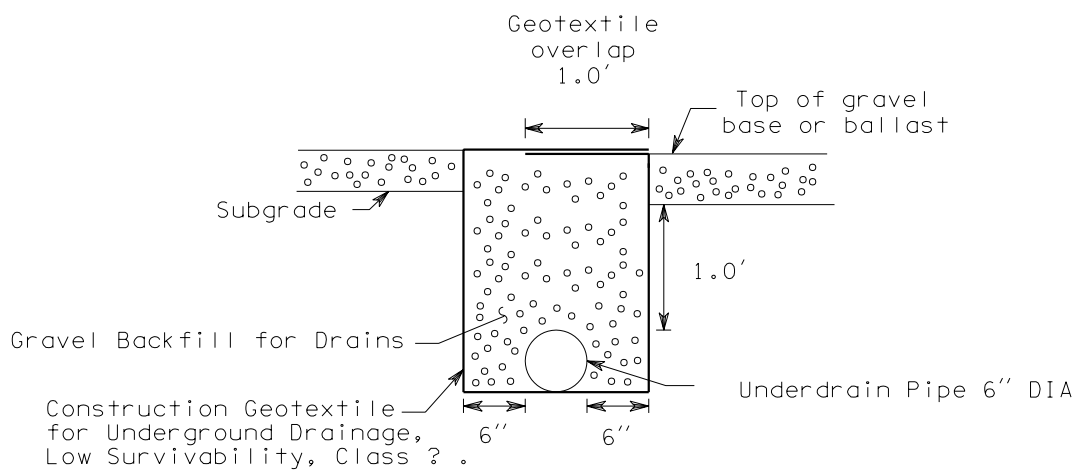
GEOTEXTILE WRAPPED  
DITCH SUBGRADE DRAIN

**D130**

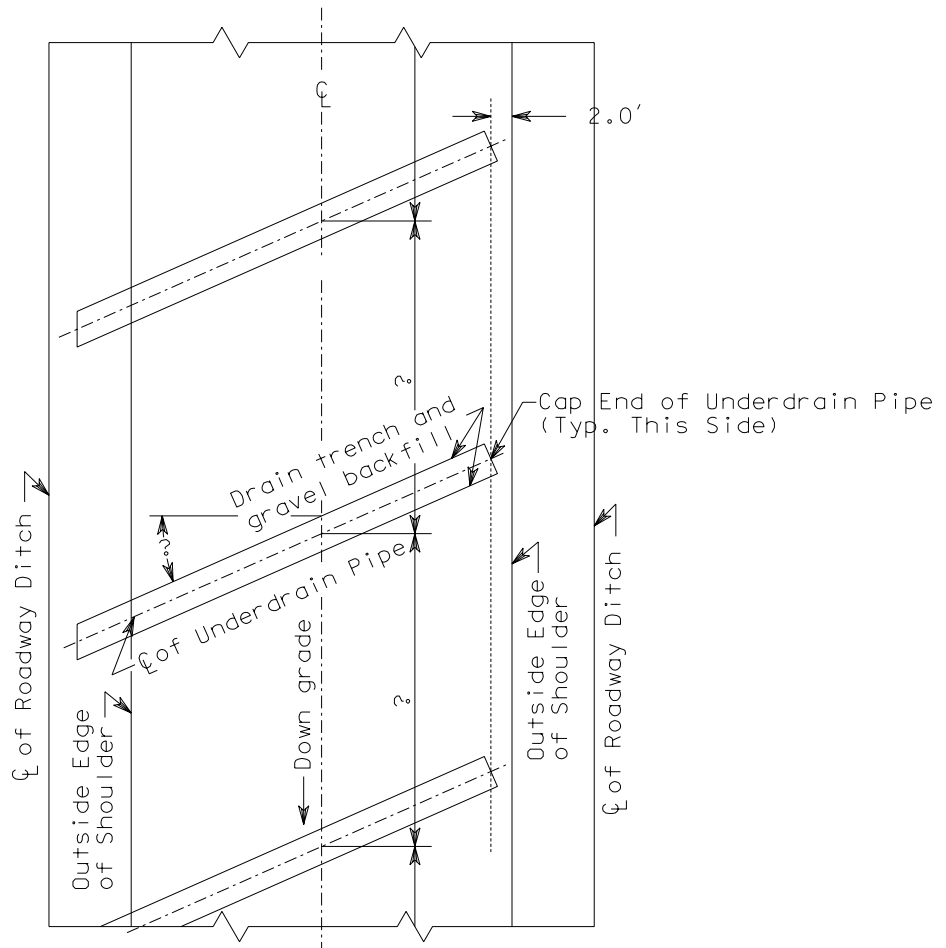
NOV 1997



### SUBGRADE DRAIN



### GEOTEXTILE SUBGRADE DRAIN



SUBGRADE DRAIN PLAN LAYOUT

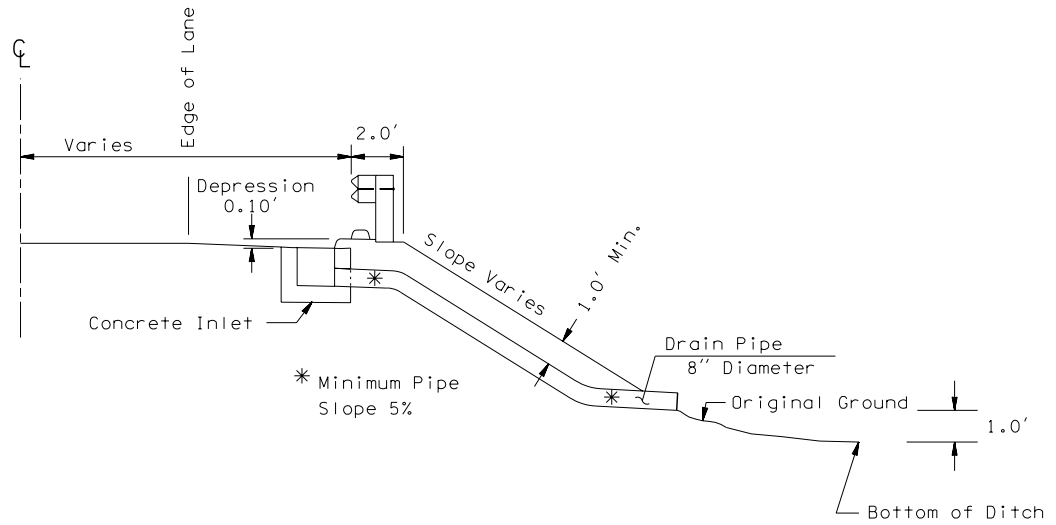
### NOTES TO DESIGNERS

1. THE SPACING SHALL BE AS REQUIRED FOR THE PARTICULAR PROJECT BUT NOT MORE THAN 500 FEET ON GRADES IN EXCESS OF 0.025% FT.
2. THE PATTERN MAY HAVE TO BE VARIED IN CASE OF A SPECIAL DESIGN FOR SPRINGS OR FREE WATER IN THE SUBGRADE.
2. THE ANGLE SHALL VARY TO PROVIDE A MINIMUM GRADIENT ON THE DRAIN OF 0.005% FT.

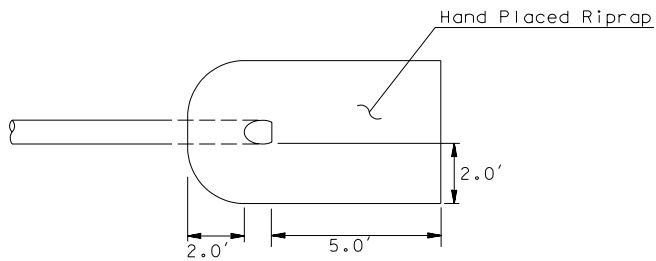
SUBGRADE DRAIN PLAN LAYOUT

**D132**

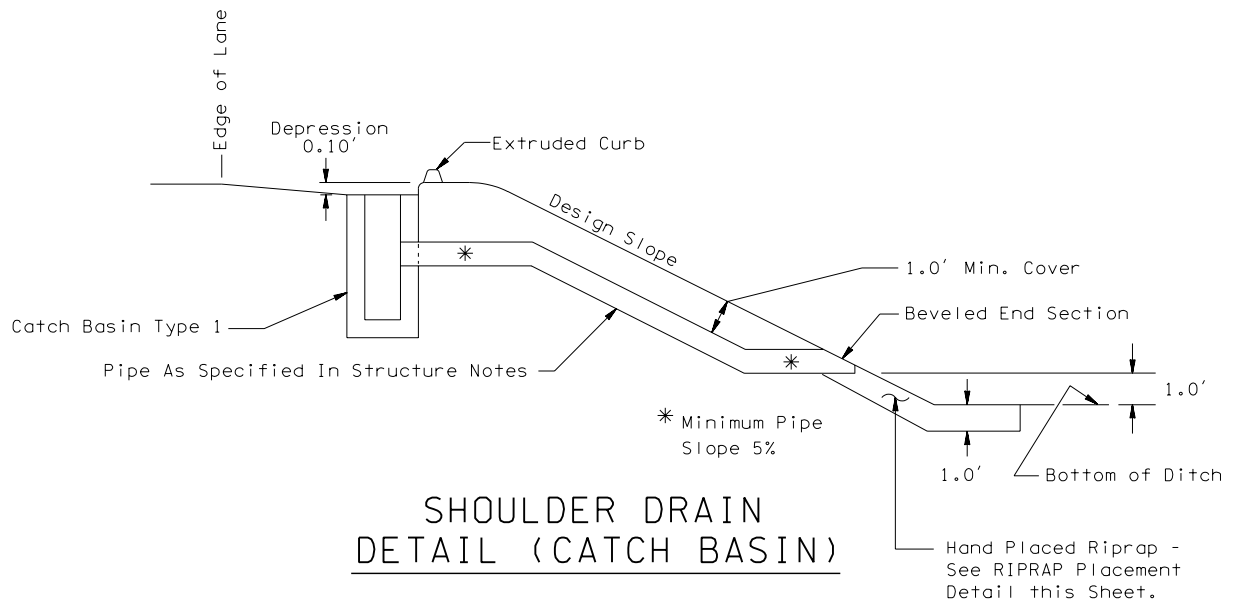
NOV 1997



SHOULDER DRAIN DETAIL (INLET)



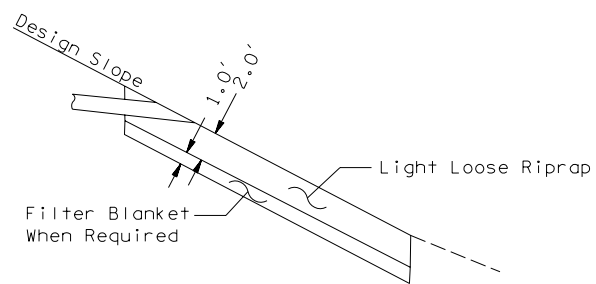
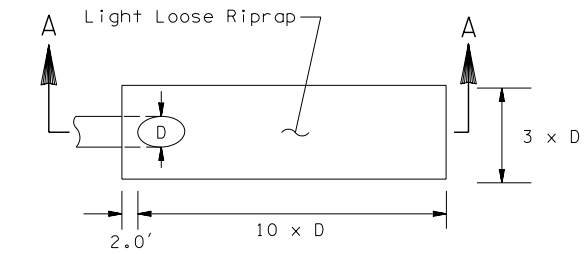
## RIPRAP PLACEMENT DETAIL



## SHOULDER DRAIN DETAIL (CATCH BASIN)

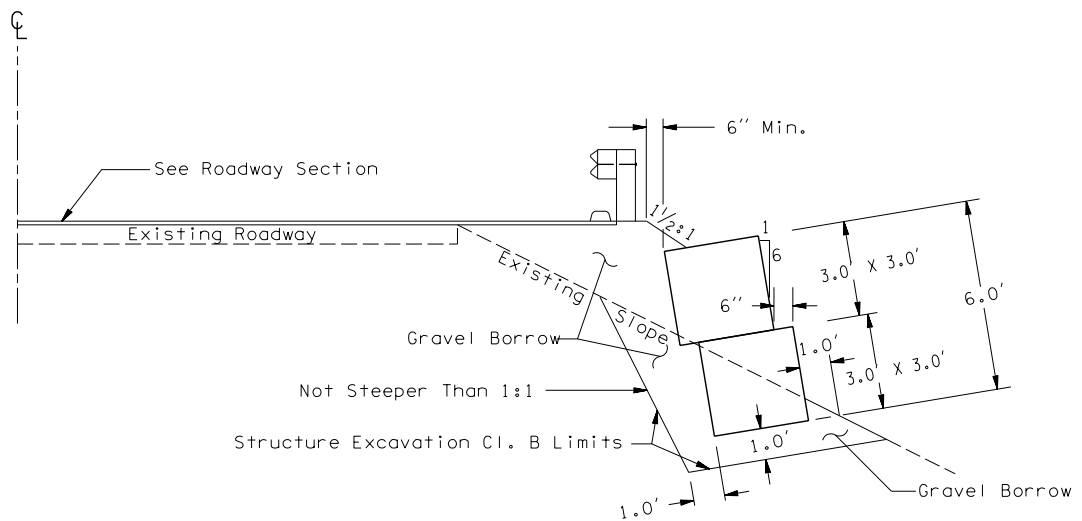
SHOULDER DRAIN AND RIPRAP  
PLACEMENT DETAIL (CATCH BASIN)

**D136**  
NOV 1997



SECTION A-A

## RIPRAP PAD DETAIL



## GABION CRIBBING DETAIL

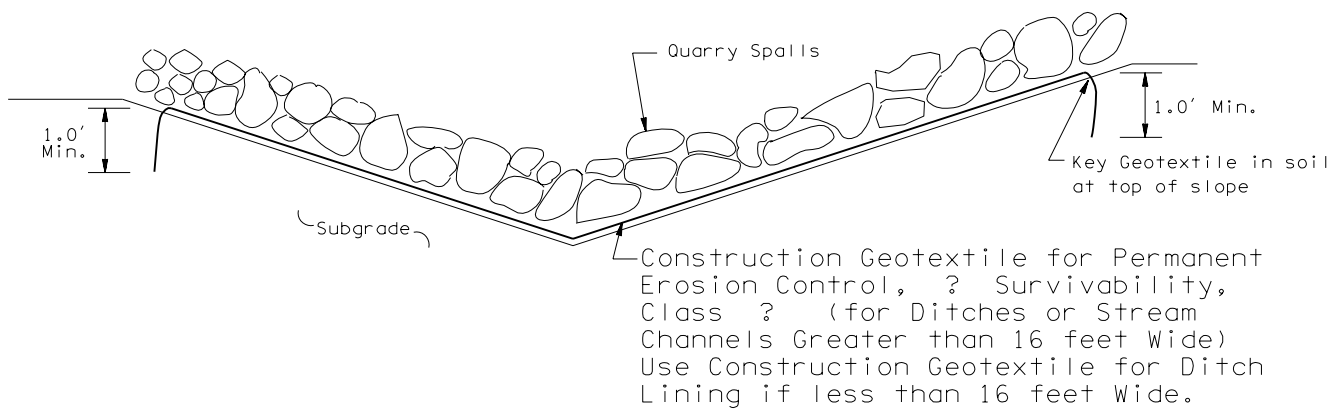
### NOTES TO DESIGNERS

1. DETAIL MAY BE EDITED FOR DIFFERENT SLOPES, DISTANCES AND BASKET CONFIGURATIONS.

GABION CRIBBING DETAIL

**D143**

NOV 1997

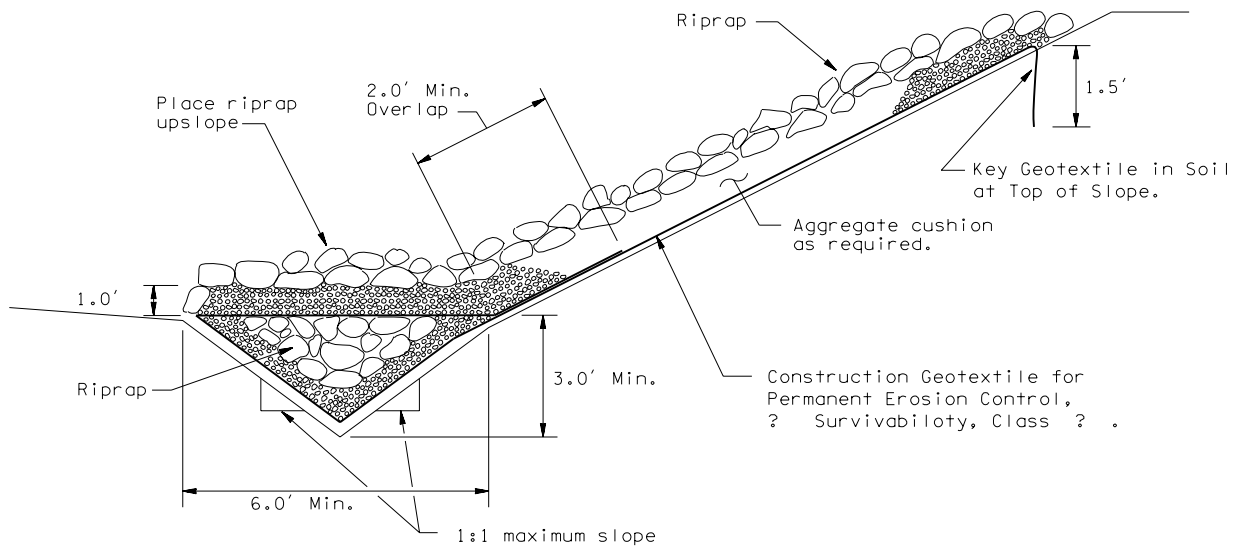


## GEOTEXTILE LINED DITCHES AND STREAM CHANNELS

GEOTEXTILE LINED DITCHES  
AND STREAM CHANNELS

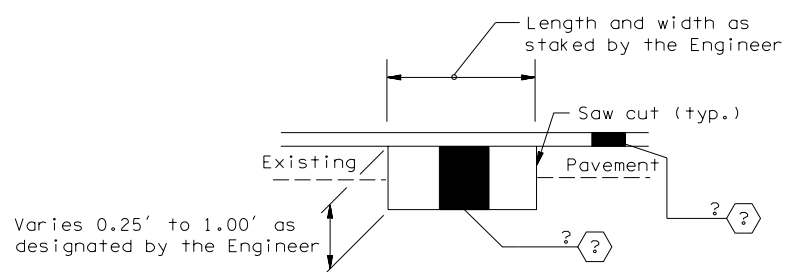
**D145**

NOV 1997



## GEOTEXTILE SLOPE PROTECTION

PAVEMENT AND SIDEWALK  
TRANSITION SECTIONS

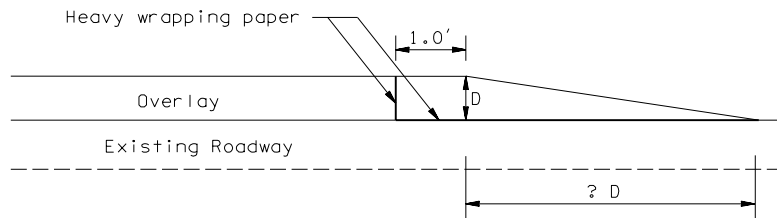


## PAVEMENT REPAIR DETAIL

PAVEMENT REPAIR DETAIL

**D161**

NOV 1997



## CONSTRUCTION JOINT TAPER

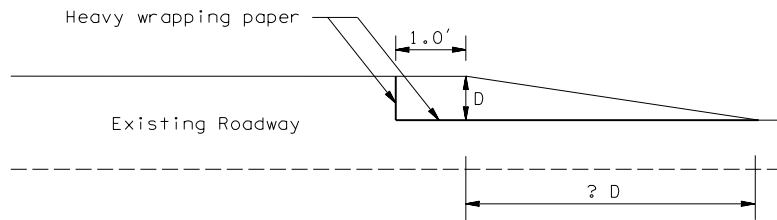
### NOTES TO DESIGNERS

1. SEE CONSTRUCTION MANUAL FOR SLOPE RATIO FOR JOINTS CONSTRUCTED FOR OVERNIGHT USE.
2. FOR JOINTS INTENDED FOR USE LONGER THAN OVERNIGHT THE SLOPE RATIO IS 1:100 .

CONSTRUCTION JOINT TAPER

D165

NOV 1997



## GRADE TRANSITION FOR PLANING

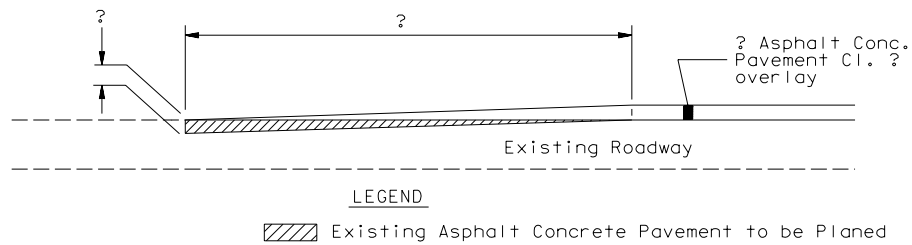
### NOTES TO DESIGNERS

1. SEE CONSTRUCTION MANUAL FOR SLOPE RATIO FOR JOINTS CONSTRUCTED FOR OVERNIGHT USE.
2. FOR JOINTS INTENDED FOR USE LONGER THAN OVERNIGHT THE SLOPE RATIO IS 1:100 .

GRADE TRANSITION FOR PLANING

**D167**

NOV 1997



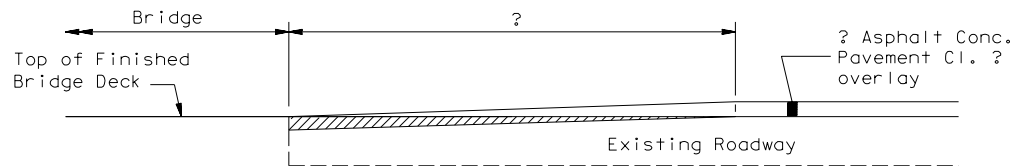
## BUTT JOINT PLANING DETAIL

STA. ? TO STA. ?  
 STA. ? TO STA. ?  
 STA. ? TO STA. ?  
 STA. ? TO STA. ?

BUTT JOINT PLANING DETAIL

**D168**

NOV 1997



LEGEND

 Existing Asphalt Concrete Pavement to be Planed

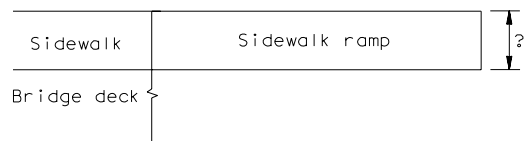
BRIDGE: ? / ?

BRIDGE END PLANING DETAIL

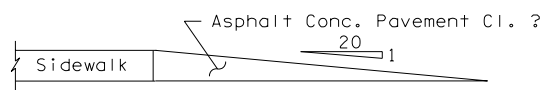
BRIDGE END PLANING DETAIL

**D169**

NOV 1997



PLAN



ELEVATION

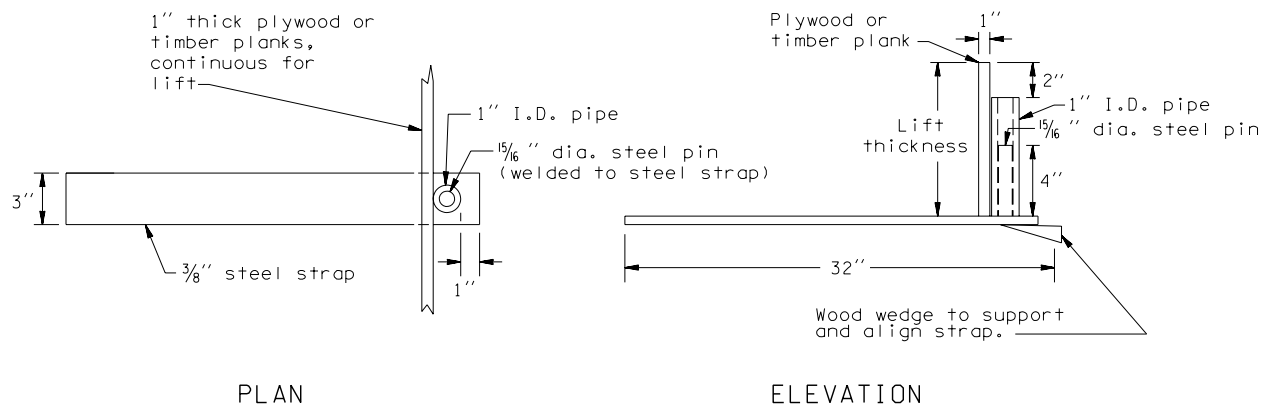
## BRIDGE END SIDEWALK RAMP DETAIL

BRIDGE END SIDEWALK  
RAMP DETAIL

**D171**

NOV 1997

GEOSYNTHETIC  
WALLS AND SLOPES



NOTE: Place straps at 4' to 6' centers along wall face.

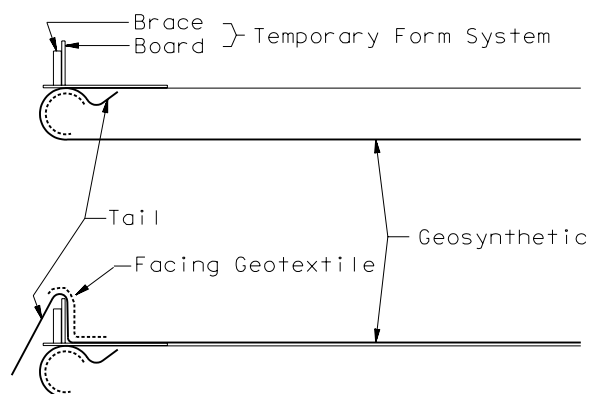
## (OPTIONAL) GEOSYNTHETIC TEMPORARY FORM SYSTEM DETAIL

(SEE SPECIAL PROVISIONS)

(OPTIONAL) GEOSYNTHETIC TEMPORARY  
FORM SYSTEM DETAIL

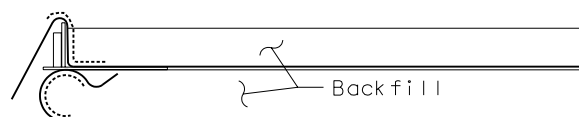
**D225**

NOV 1997

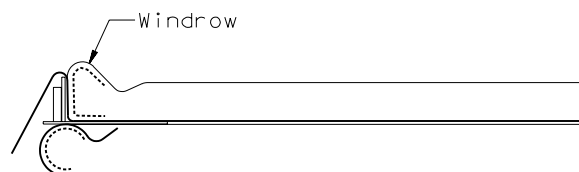


1. Set form on completed lift.

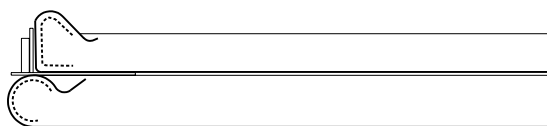
2. Unroll geosynthetic and position so that a 4 feet wide "Tail" drapes over the form. If a geogrid is used for the geosynthetic reinforcement, position facing geotextile to prevent backfill from going through geogrid openings.



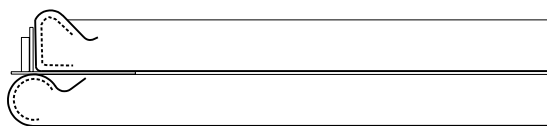
3. Place the backfill, until the backfill is up to half of the required vertical geosynthetic layer spacing.



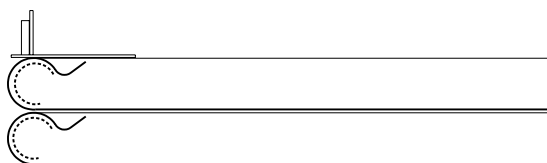
4. Place a windrow to slightly greater than full lift height against the form.



5. Place the geosynthetic "Tail" over the windrow and lock into place with backfill.



6. Complete backfilling until the compacted backfill layer thickness is equal to the required vertical geosynthetic layer spacing.



7. Reset the form and repeat the sequence.

## GEOSYNTHETIC WALL CONSTRUCTION PROCEDURE

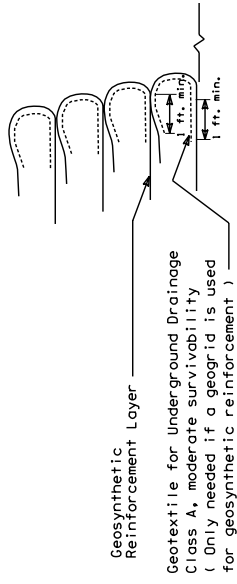
(SEE SPECIAL PROVISIONS)

NOTE: Method of temporary forming is optional. Also, forming two layers at a time will help maintain the wall face batter.

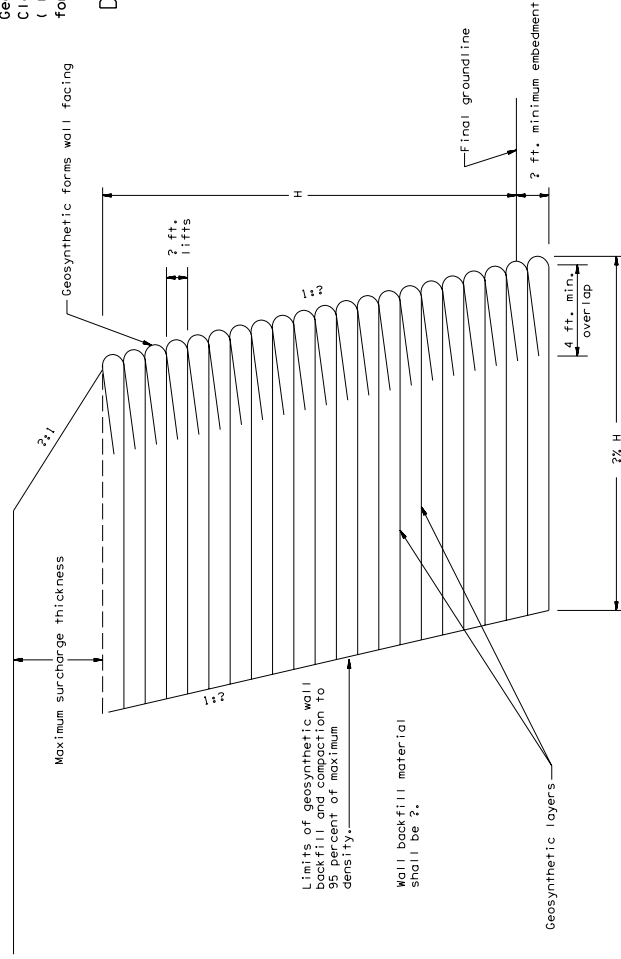
GEOSYNTHETIC WALL  
CONSTRUCTION PROCEDURE

D226

NOV 1997



DETAIL: Facing for temporary wall.



# TEMPORARY GEOSYNTHETIC WALL SECTION

(SEE SPECIAL PROVISIONS)

TEMPORARY GEOSYNTHETIC WALL SECTION

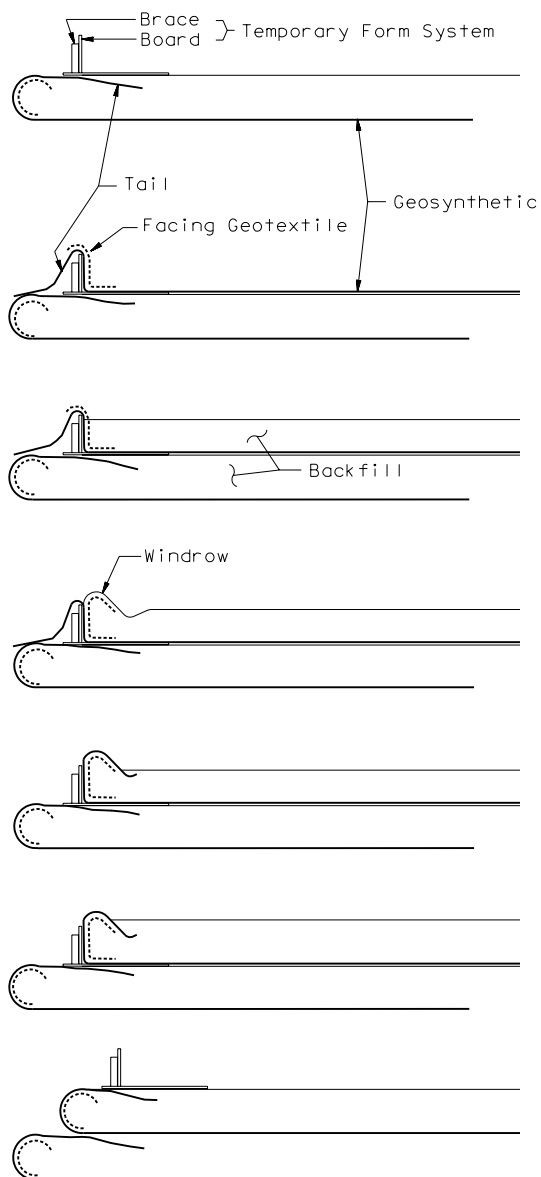
D227

NOV 1997



(SEE SPECIAL PROVISIONS)

## NOV 1997



1. Set form on completed lift.

2. Unroll geosynthetic and position so that a 4.0' wide "Tail" drapes over the form. If a geogrid is used for the geosynthetic reinforcement, position facing geotextile to prevent backfill from going through geogrid openings.

3. Place the backfill, until the backfill is up to half of the required vertical geosynthetic layer spacing.

4. Place a windrow to slightly greater than full lift height against the form.

5. Place the geosynthetic "Tail" over the windrow and lock into place with backfill.

6. Complete backfilling until the compacted backfill layer thickness is equal to the required vertical geosynthetic layer spacing.

7. Reset the form and repeat the sequence.

## GEOSYNTHETIC REINFORCED SLOPE WITH WRAPPED FACE CONSTRUCTION PROCEDURE

(SEE SPECIAL PROVISIONS)

NOTE: Method of temporary forming is optional. Also, forming two layers at a time will help maintain the wall face batter.

**GEOSYNTHETIC SLOPE  
CONSTRUCTION PROCEDURE**

**D229**

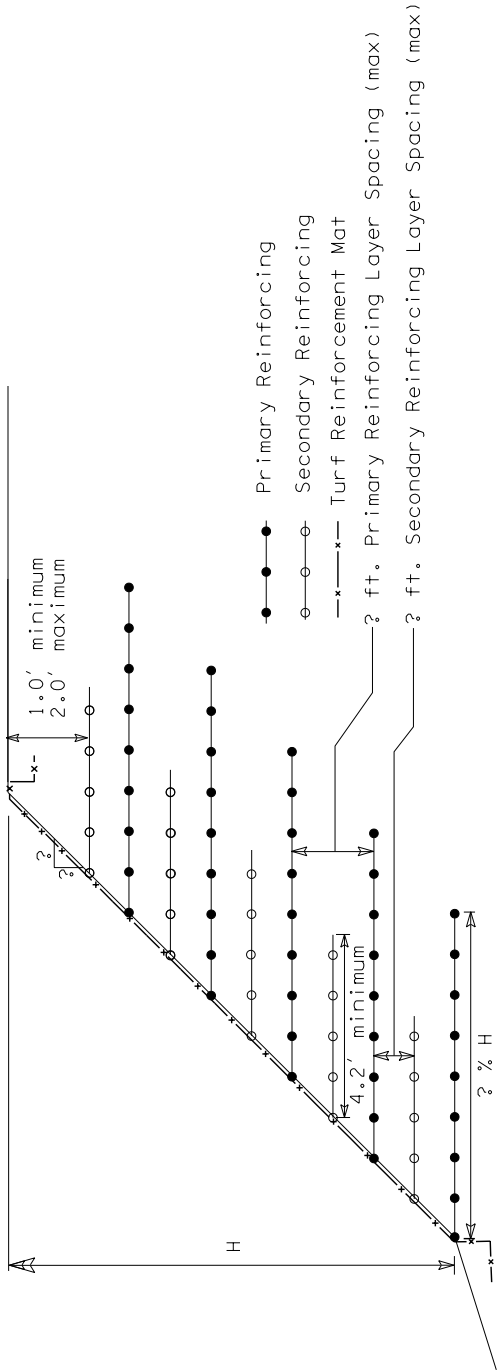
NOV 1997



# GEOSYNTHETIC SLOPE SECTION

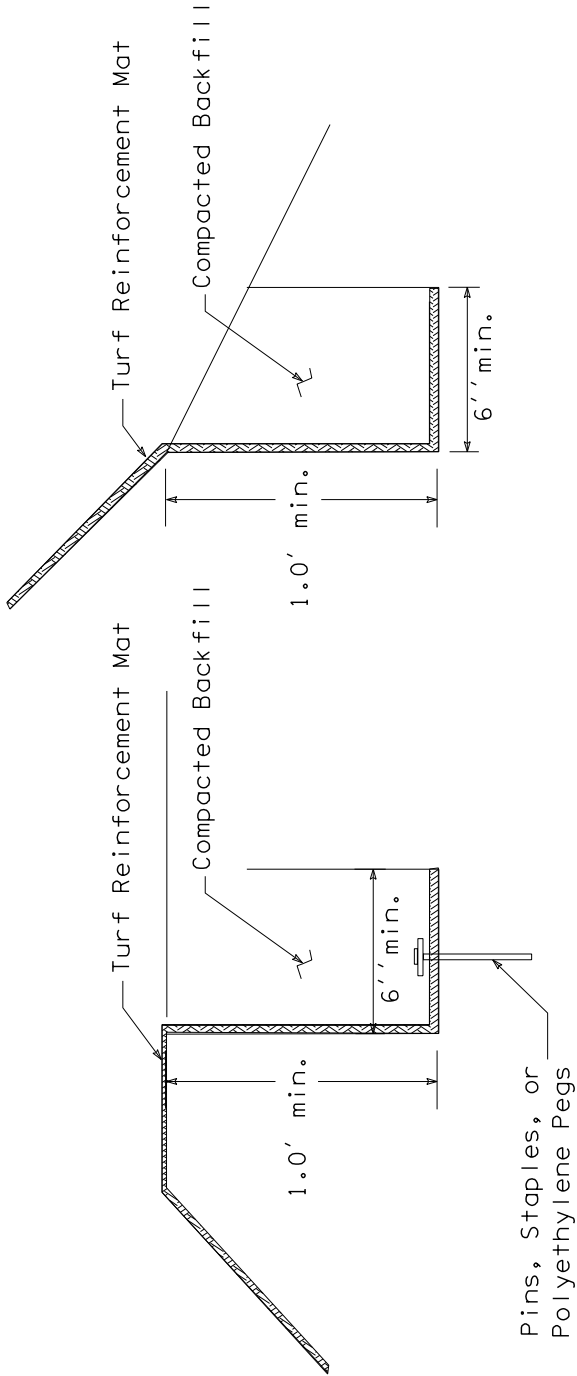
D230

NOV 1997



GEOSYNTHETIC REINFORCED SLOPE SECTION WITH TURF  
REINFORCEMENT MAT AT SLOPE FACE

(SEE SPECIAL PROVISIONS)

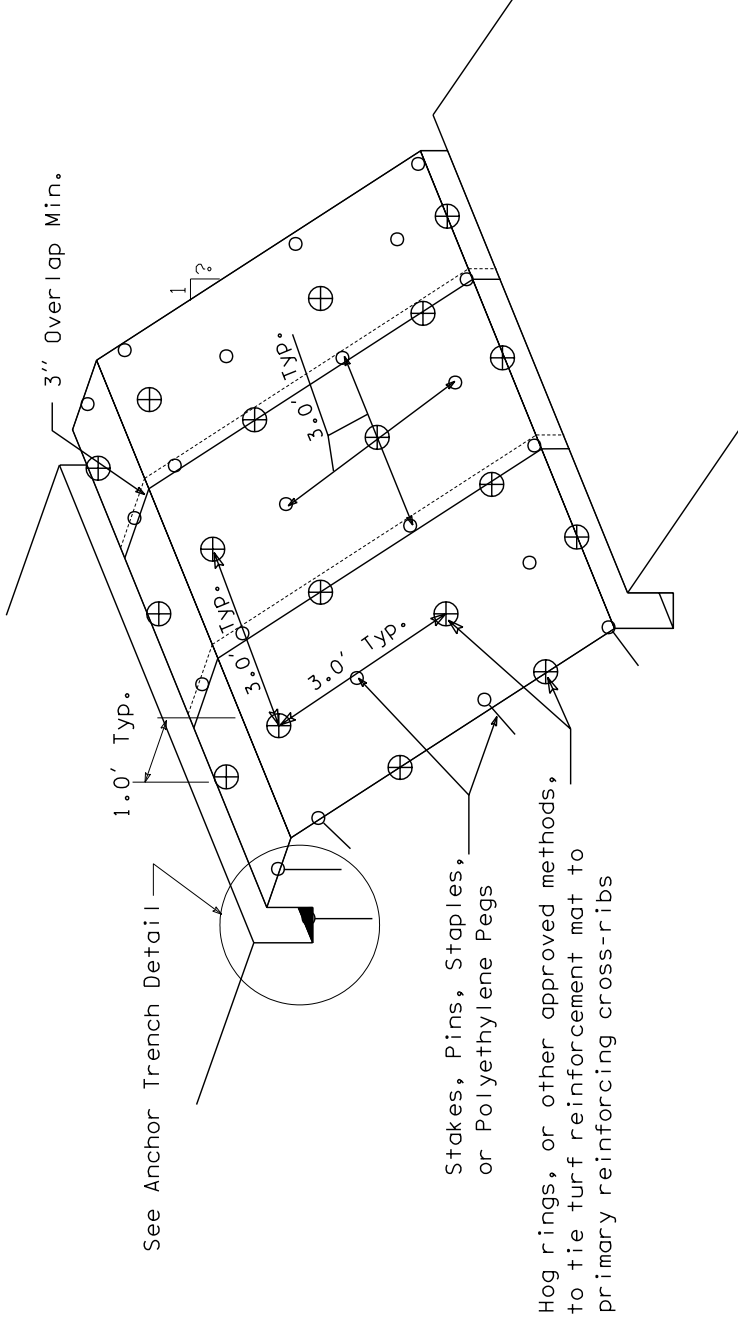


TOP OF SLOPE

TOE OF SLOPE

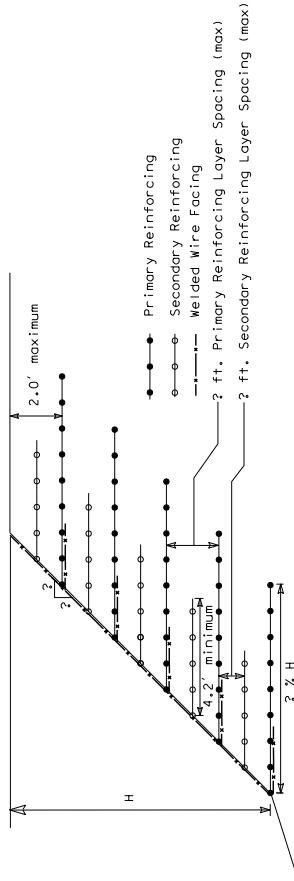
ANCHOR TRENCH DETAILS FOR REINFORCED  
SLOPE WITH TURF REINFORCEMENT MAT

(SEE SPECIAL PROVISIONS)



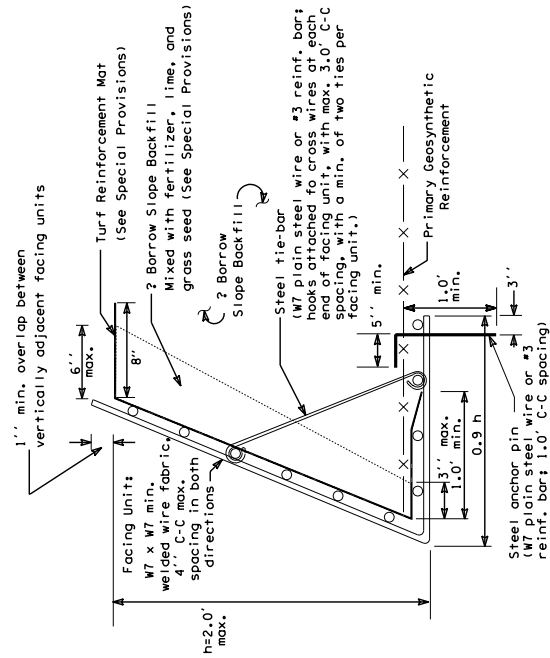
TURF REINFORCEMENT MAT PLACEMENT DETAIL

(SEE SPECIAL PROVISIONS)



GEOSYNTHETIC REINFORCED SLOPE SECTION WITH  
WELDED WIRE PANELS AT SLOPE FACE

(SEE SPECIAL PROVISIONS)



WELDED WIRE FACING DETAIL FOR REINFORCED SLOPE

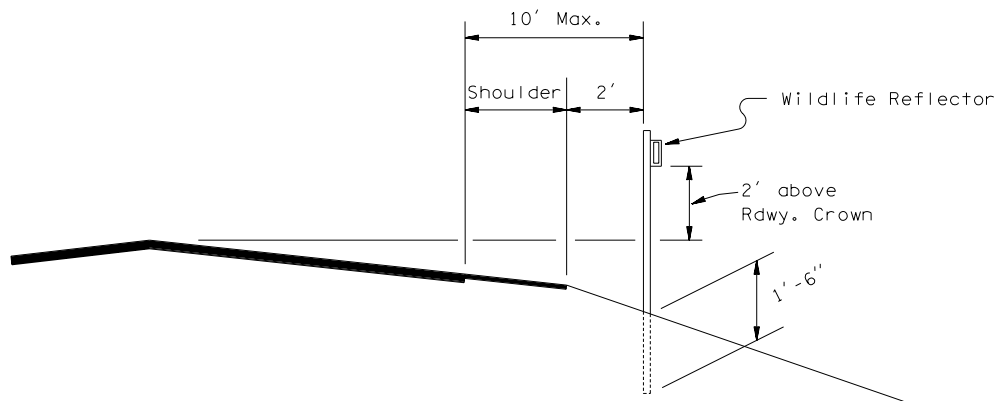
(SEE SPECIAL PROVISIONS)

GEOSYNTHETIC SLOPE  
WELDED WIRE

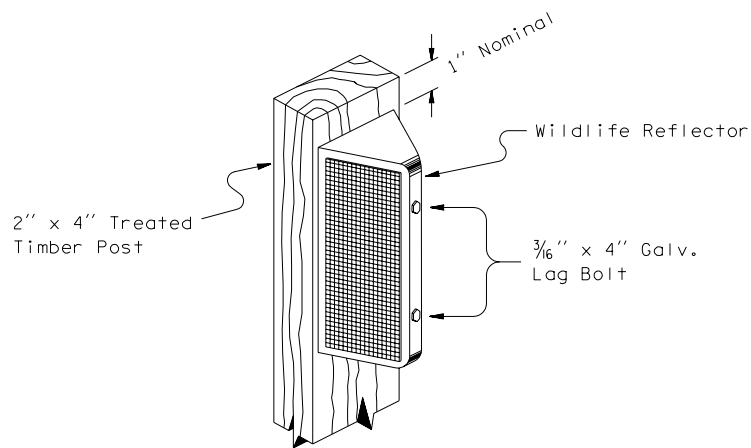
D230B

NOV 1997

MISCELLANEOUS  
DETAILS



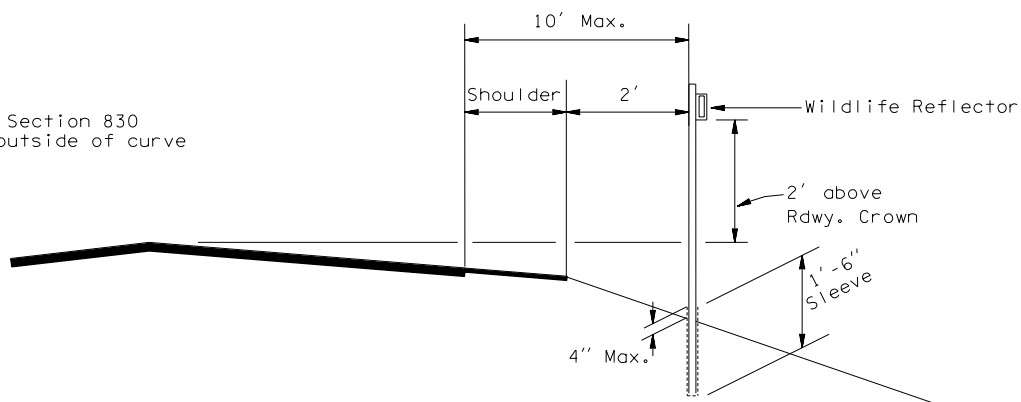
REFLECTOR POST INSTALLATION DETAIL



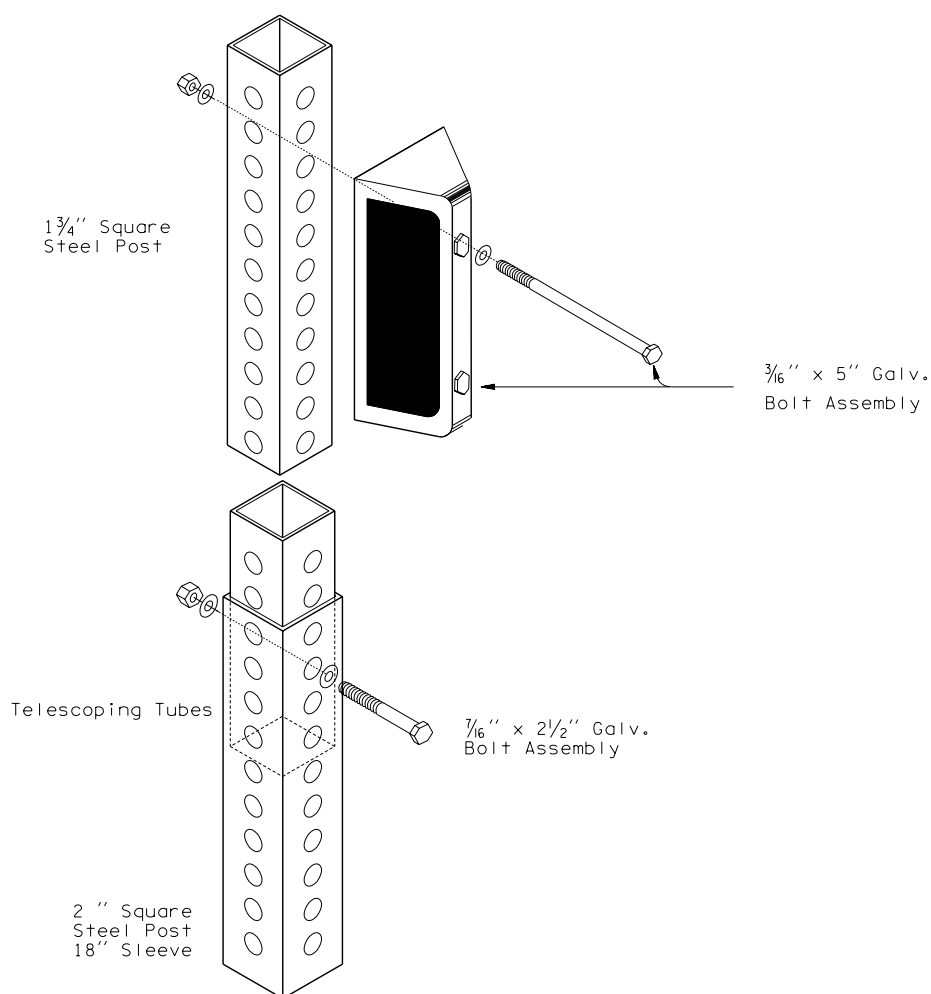
REFLECTOR ATTACHMENT DETAIL

## WILDLIFE REFLECTORS

Note to Designer:  
See Design Manual Section 830  
for tangent v.s. outside of curve  
installation



REFLECTOR POST INSTALLATION DETAIL

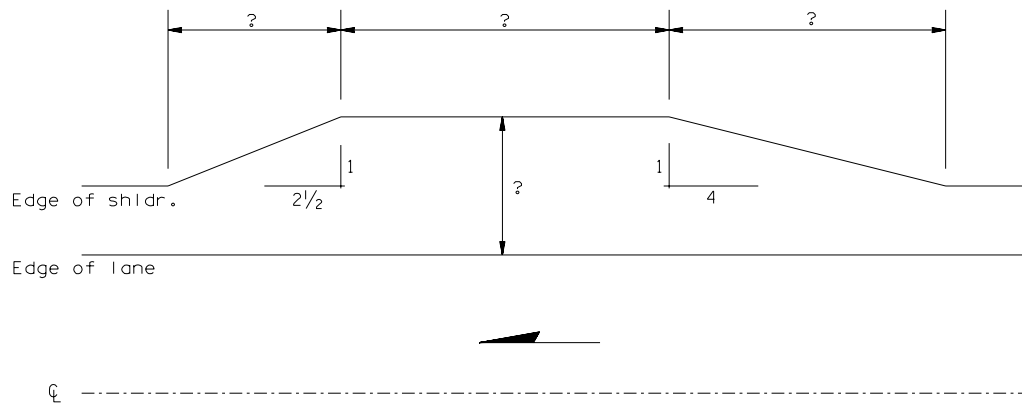


REFLECTOR ATTACHMENT DETAIL

## WILDLIFE REFLECTORS

**D235**

NOV 1997



## MAILBOX TURNOUT DETAIL

STA. ?

### NOTES TO DESIGNERS

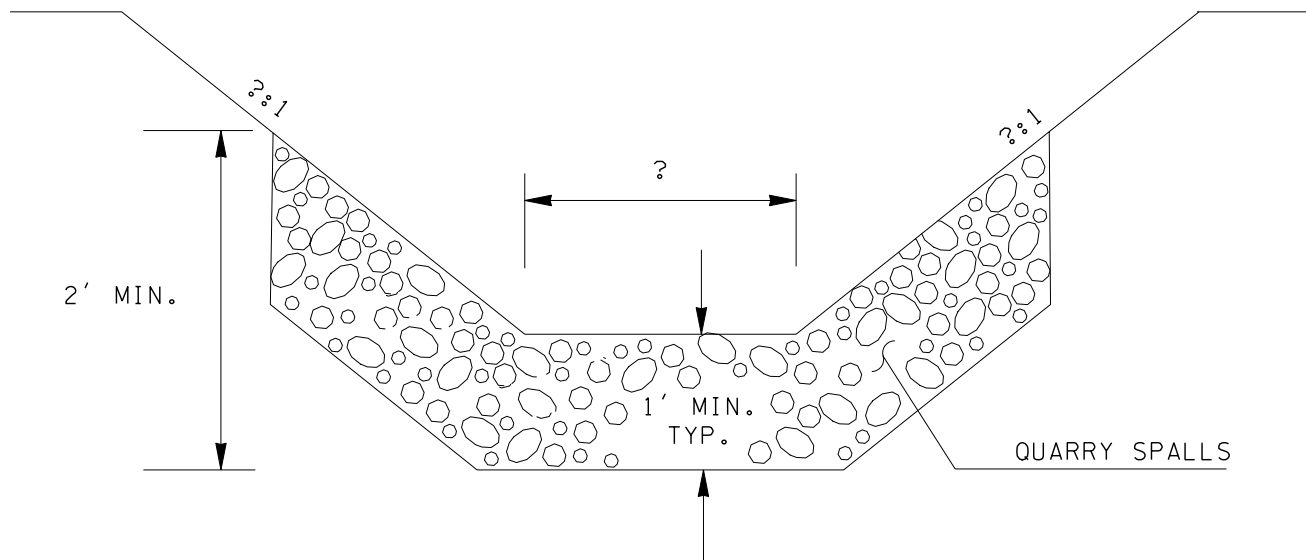
1. SEE STANDARD PLAN FOR MAILBOX SUPPORT DESIGN.
2. SEE DESIGN MANUAL FOR LOCATION AND TURNOUT REQUIREMENTS.

MAILBOX TURNOUT DETAIL

**D241**

JULY 1994

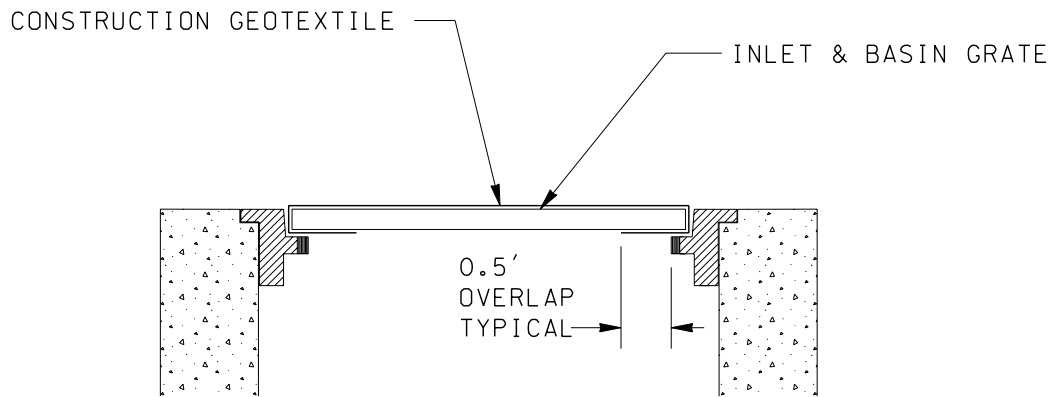
# TEMPORARY EROSION CONTROL



QUARRY SPALL SECTION

QUARRY SPALL SECTION

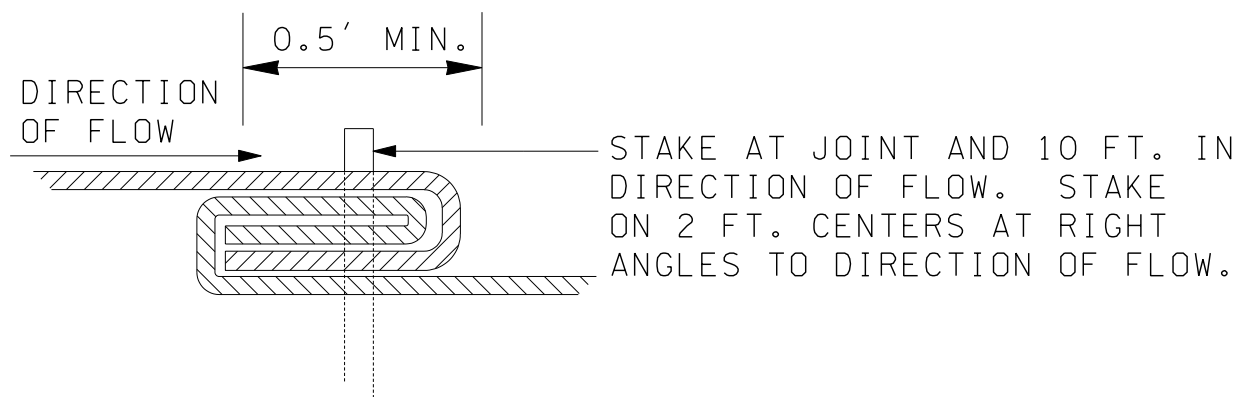
**D250**  
JULY 2001



INLET & BASIN TEMPORARY  
COVER DETAIL

INLET & BASIN TEMPORARY  
COVER DETAIL

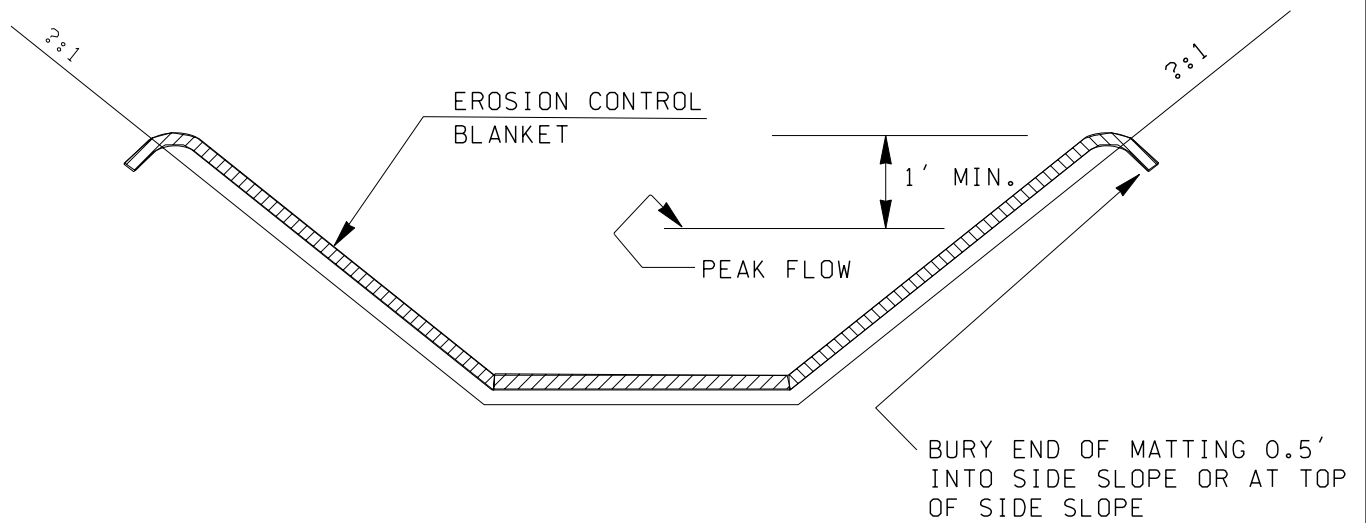
**D251**  
JULY 2001



## MATTING OVERLAP

MATTING OVERLAP

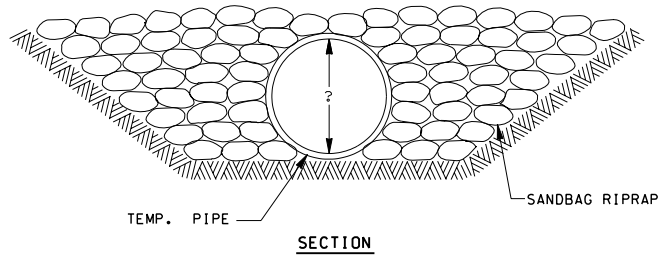
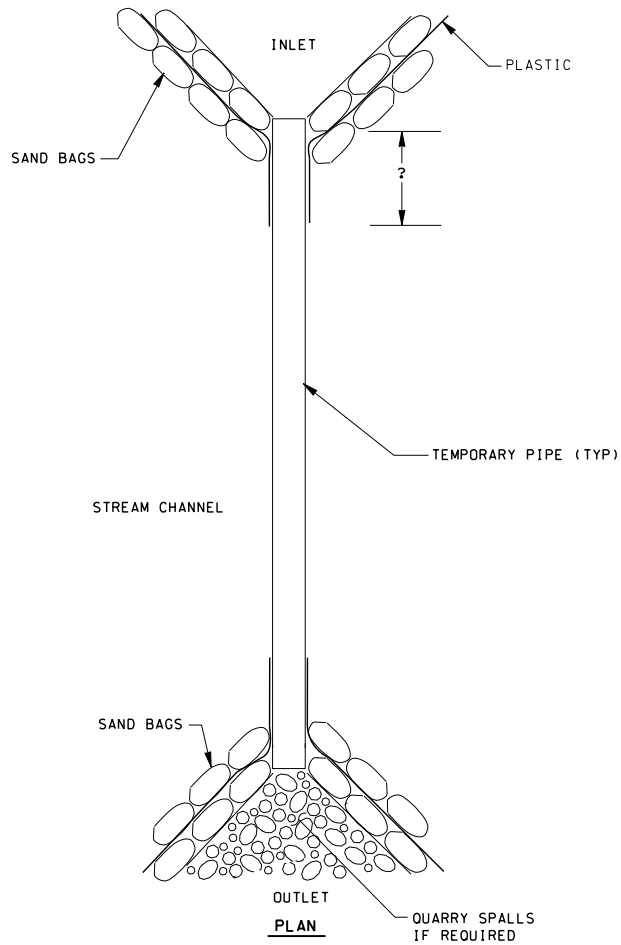
**D252**  
JULY 2001



EROSION CONTROL BLANKET  
TYPICAL SECTION

EROSION CONTROL BLANKET

**D253**  
JULY 2001

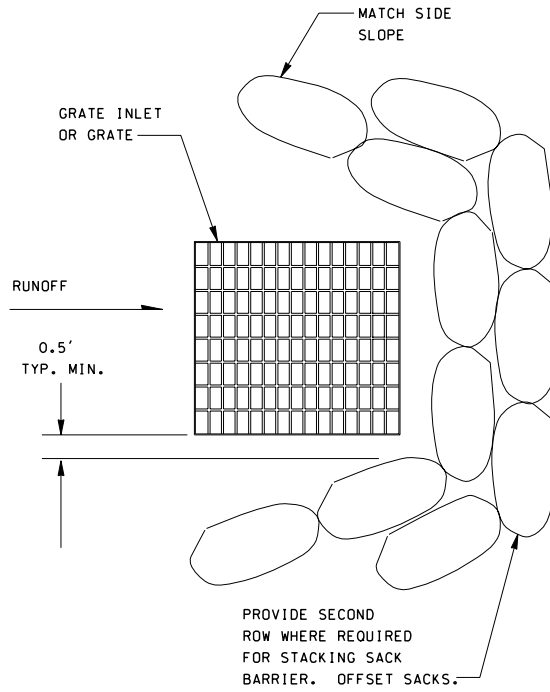


TEMPORARY BYPASS PIPE

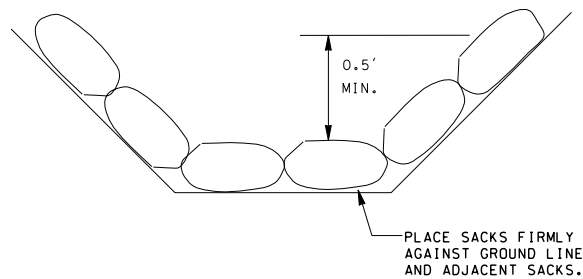
NOT TO SCALE

TEMPORARY BYPASS PIPE

**D254**  
JULY 2001



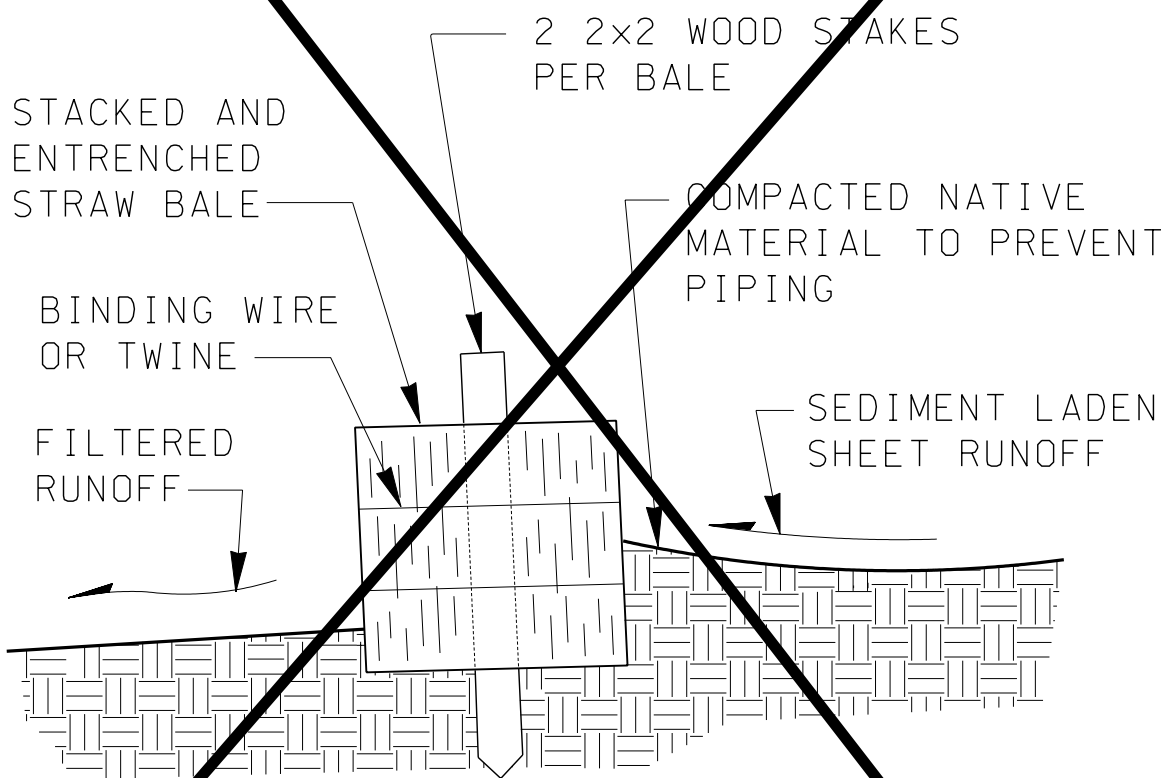
SACKS SHALL BE #10 BURLAP OR  
APPROVED ALTERNATE FILLED  
WITH 48 TO 55 LBS. OF GRAVEL  
BACKFILL FOR DRAINS.



GRAVEL SACK BARRIER

GRAVEL SACK BARRIER

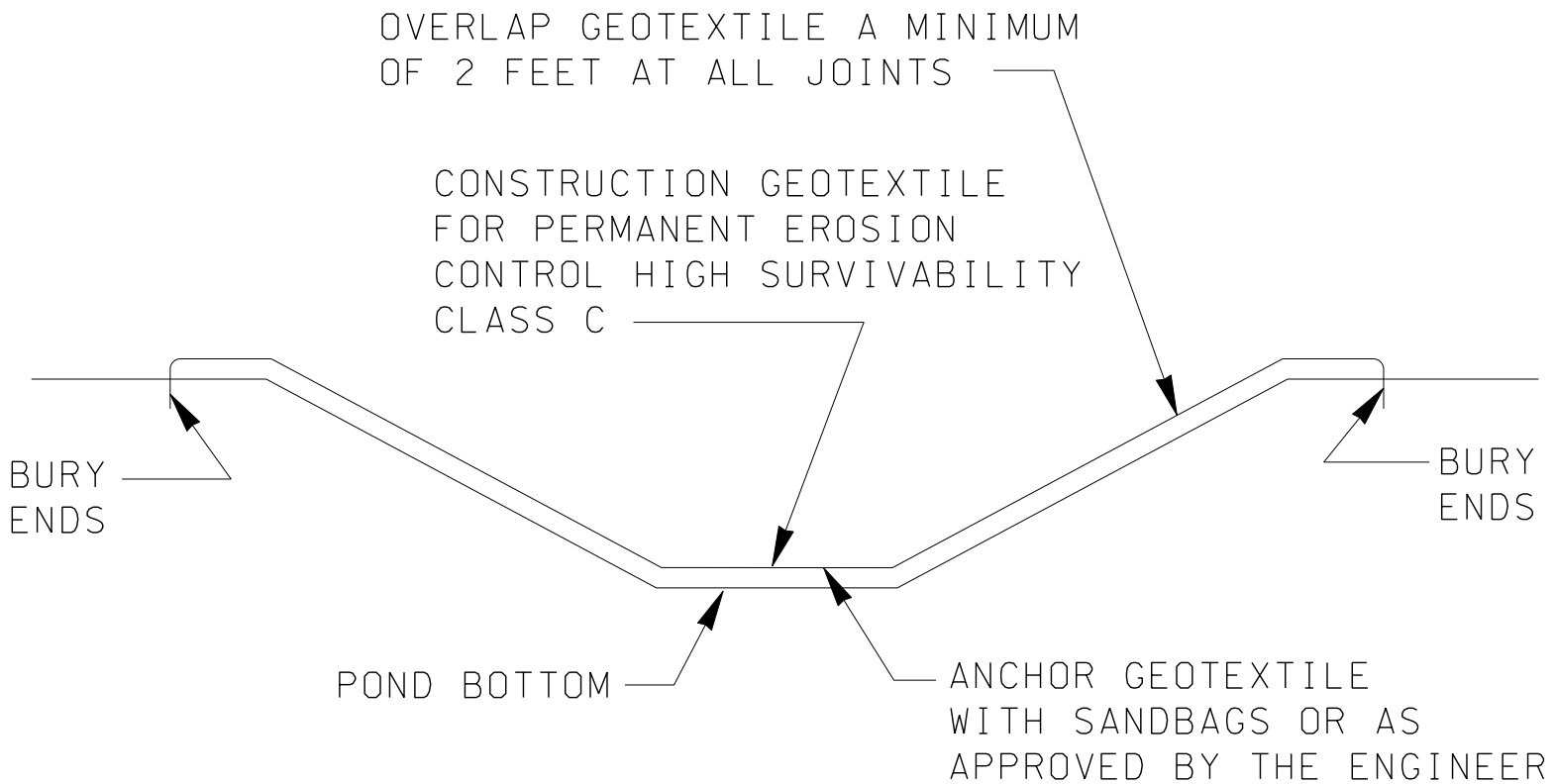
**D255**  
JULY 2001



STRAW BALE BARRIER

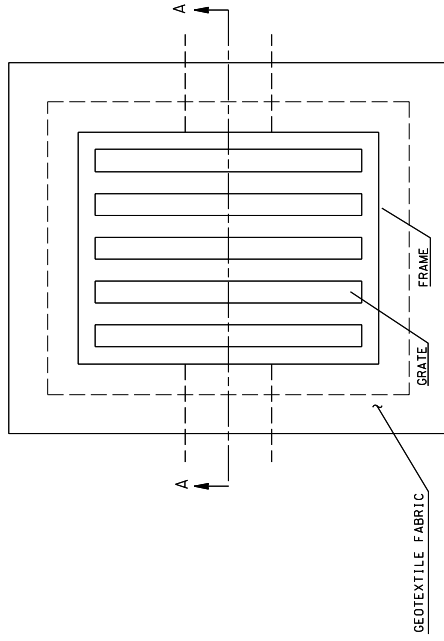
STRAW BALE BARRIER

D256  
JULY 2001

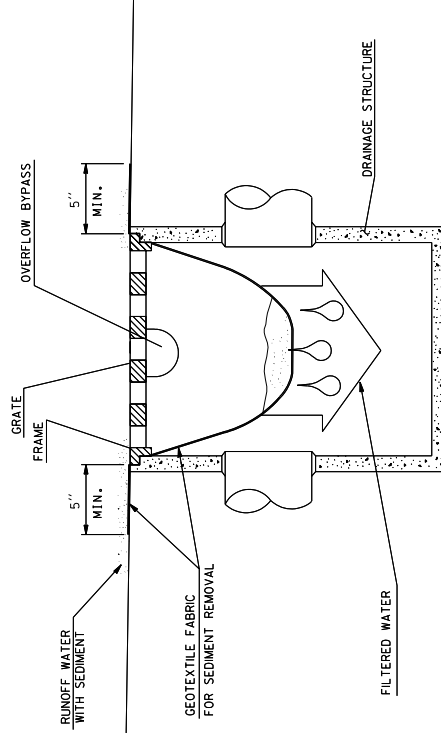


NOTE: REMOVE GEOTEXTILE FROM POND ONLY WHEN THE SITE HAS BEEN STABILIZED AND NO SEDIMENT TRANSPORT EXISTS.

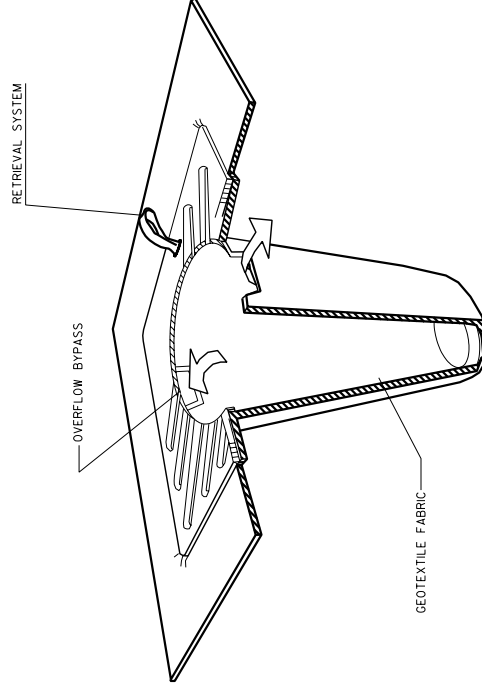
## TEMPORARY LINING FOR PONDS



PLAN VIEW

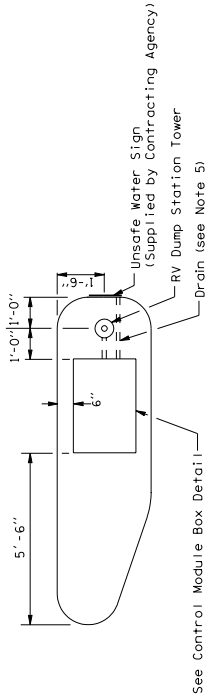


STORM DRAIN PROTECTION INSERT  
SECTION A-A  
NTS



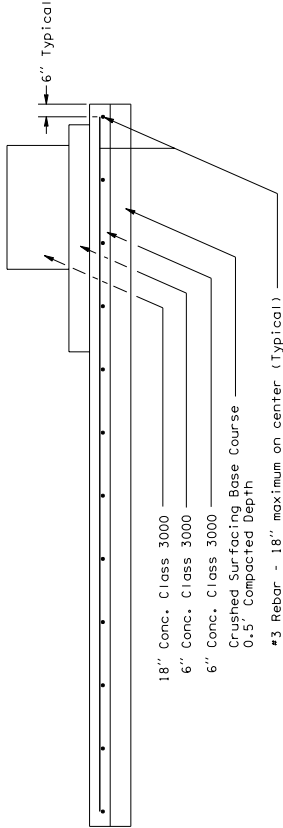
STORM DRAIN PROTECTION INSERT  
ISOMETRIC VIEW (TYP.)  
NTS

R.V. DUMP  
STATION



RV DUMP STATION ISLAND

See DetailC for island dimensions.



SECTION B-B

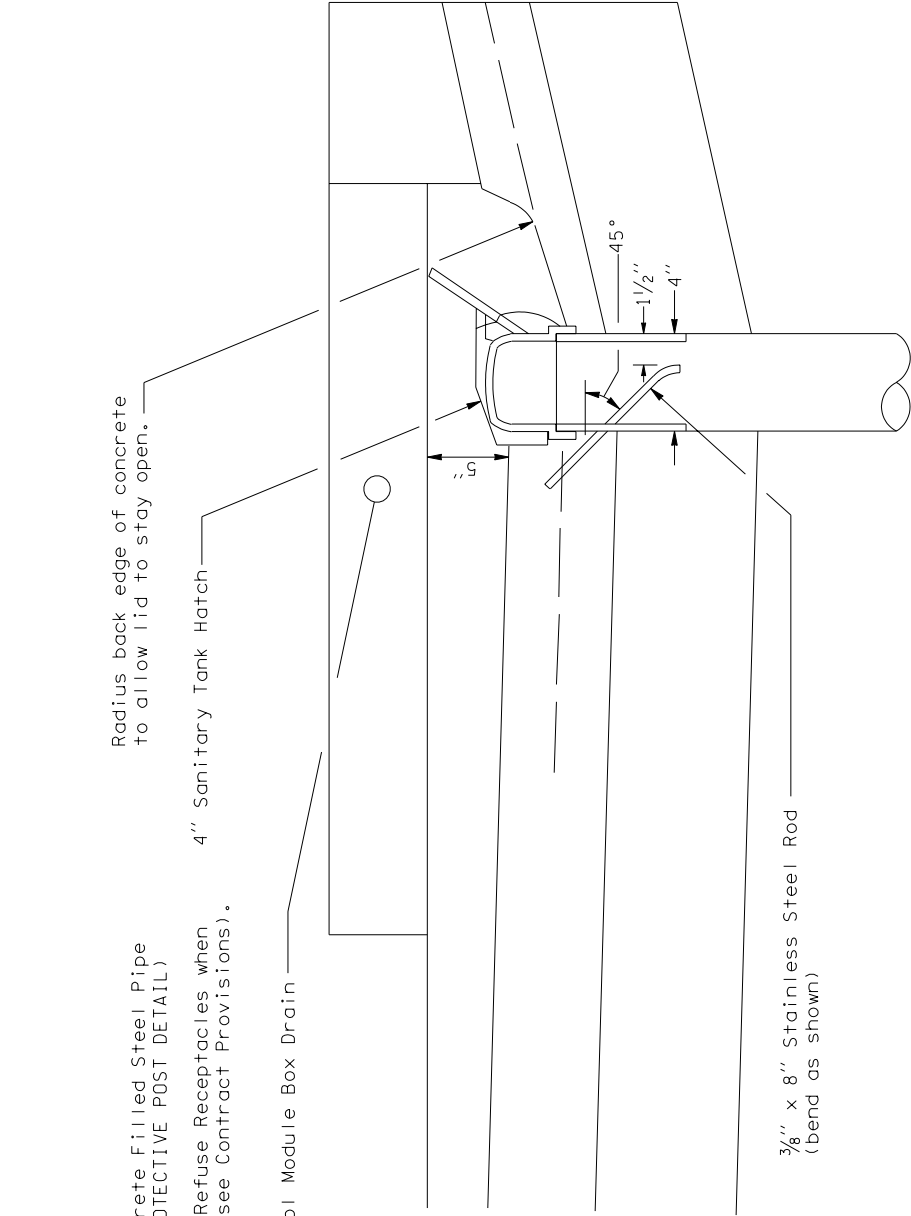
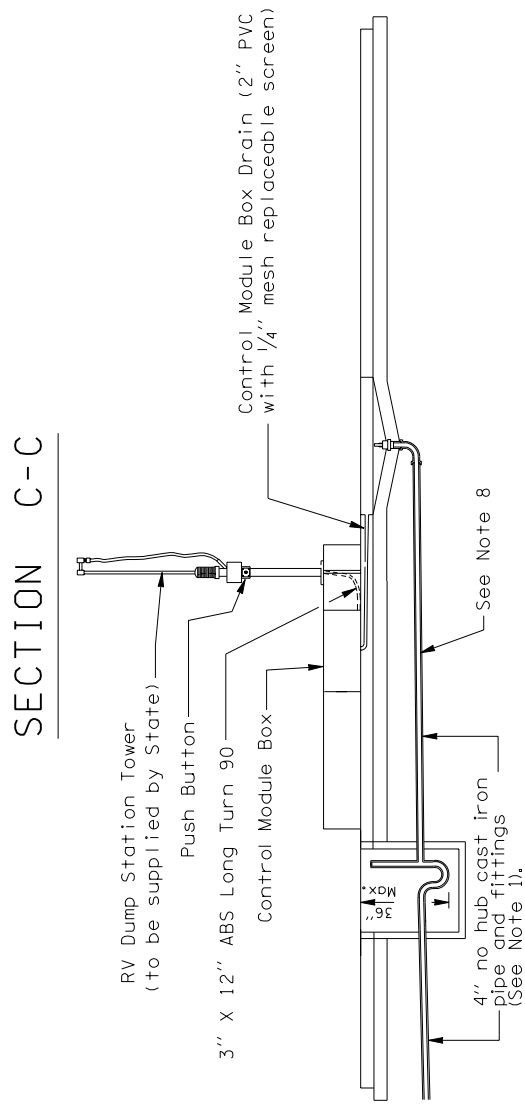
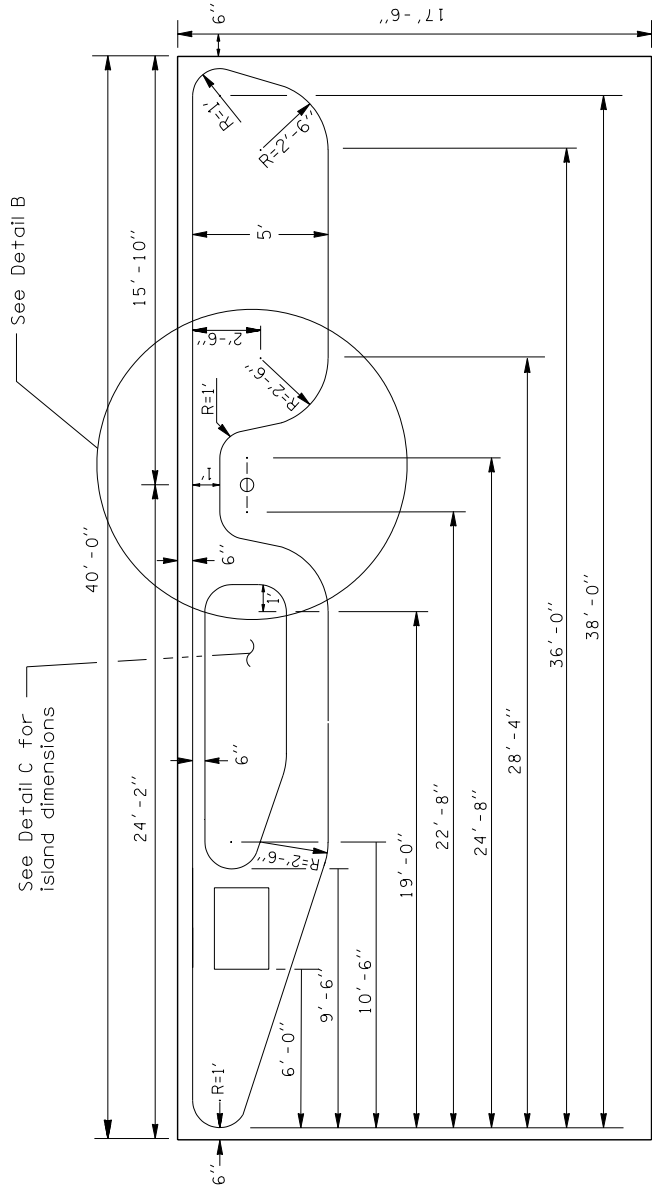
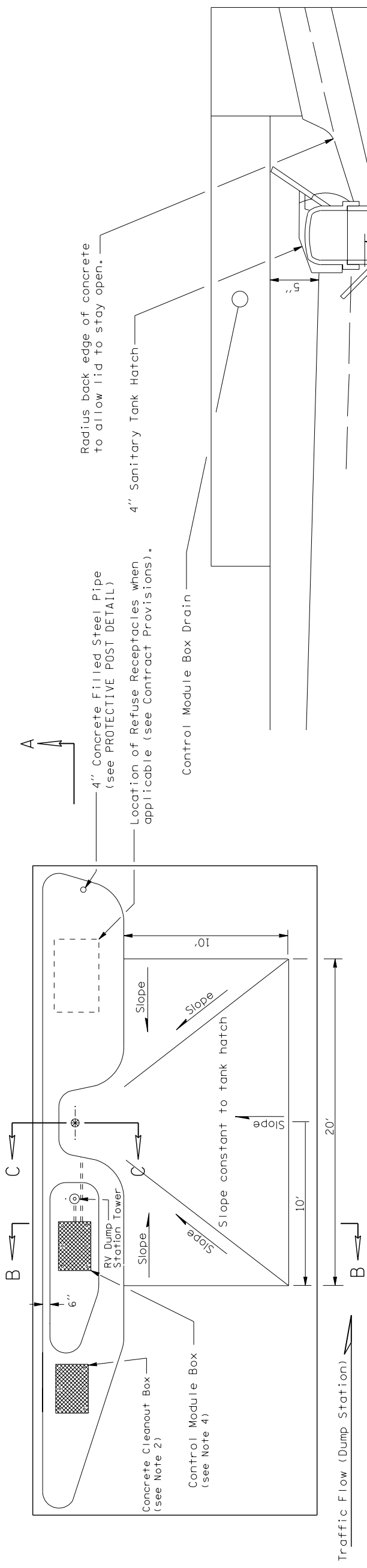
DETAIL B

NOTES:

1. Sewer pipe and fittings used from the 4-inch Sanitary Tank Hatch to a point 3 feet beyond the perimeter of the concrete slab, shall be 4-inch DIA, cast iron, no-hub type.
2. Concrete Cleanout Box shall be vault #233-L, with cover #23-2436P as manufactured by Utility Vault Co., or equal. A Sanitary Tee and standard P-trap shall be installed in the cleanout box as detailed in Section A-A. The Sanitary Tee and P-trap shall be centered within the width of the vault. A length of 4-inch cast iron no-hub pipe and a 4-inch X 3/2 inch no-hub Ferrule w/plug shall be installed on the vertical leg of the sanitary Tee, to provide a cleanout. The top of Ferrule w/plug shall be within 6-inches of the underside of the vault cover.
3. The RV Dump Station and Potable Water Station towers shall be primed with two coats of dark brown semi-gloss enamel.
4. Control Module Box frame and cover shall be #2436 as manufactured by Utility Vault Co., or equal, and shall be installed with the cover flush with the top of the concrete.
5. Control Module Box drain shall be 2-inch DIA Schedule 40 PVC pipe with standard Floor Drain Flange and grate installed at the outlet end of the drain pipe, with the face of the grate flush with the vertical face of the concrete.
6. All concrete shall be Class 3000.
7. All Concrete island edges shall have a 3/4-inch chamfer.
8. Drain pipe shall be installed on a 2 percent slope to provide proper drainage.

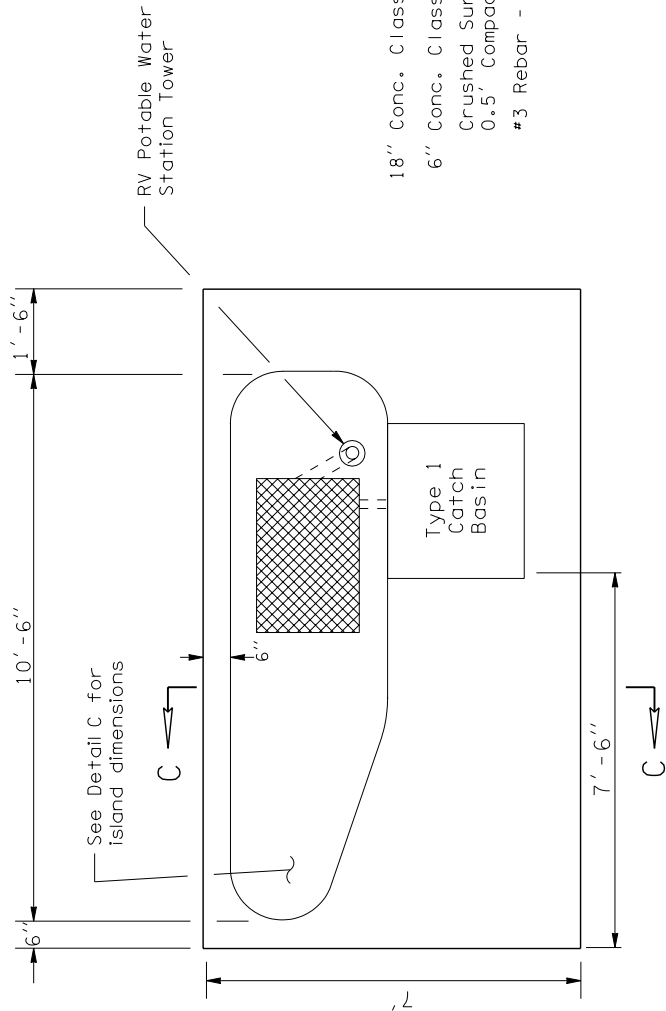
FILE NAME		\$\$\$\$\$DESIGNFILENAME\$\$\$\$\$		REGION		STATE	FED.AID PROJ.NO.		PS1	
TIME	DATE	DESIGNED BY	DATE	10	WASH	JOB NUMBER	CONTRACT NO.	LOCATION NO.	SHEET	
CHECKED BY	PROJ. ENGR.	REGIONAL ADM.	REVISION	DATE	BY	P.E. STAMP BOX				
WASHINGTON STATE Department of Transportation										SHEETS

RV DUMP STATION

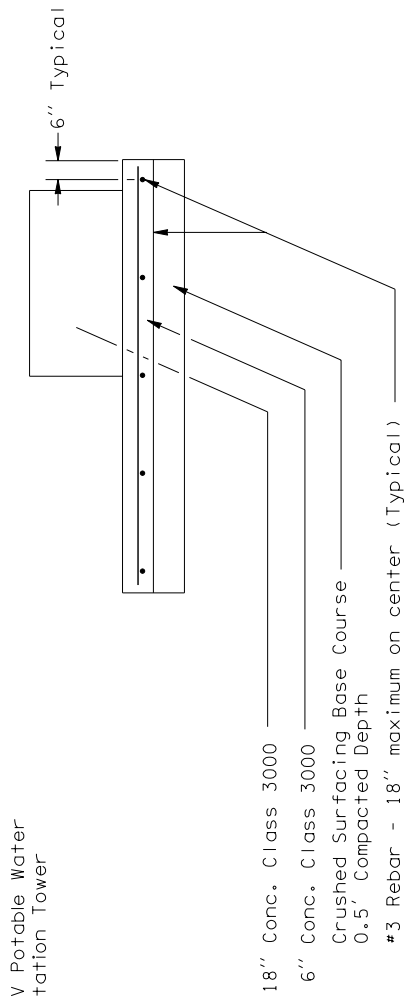


FILE NAME	\$\$\$\$\$DESIGNFILENAME\$\$\$\$\$			REGION NO.	STATE	FED.AID PROJ.NO.
TIME	\$TIME\$			10	WASH	
DATE	\$\$\$\$DATE\$\$\$\$			JOB NUMBER		
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CHECKED BY						
PROJ. ENGR.				CONTRACT NO.		
REGIONAL ADM.						LOCATION NO.
	REVISION		DATE	BY		

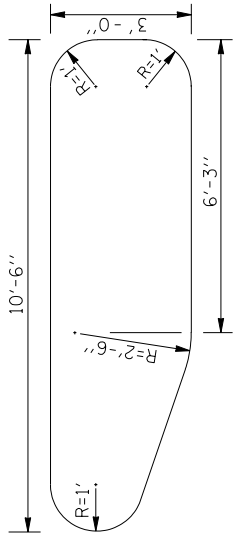
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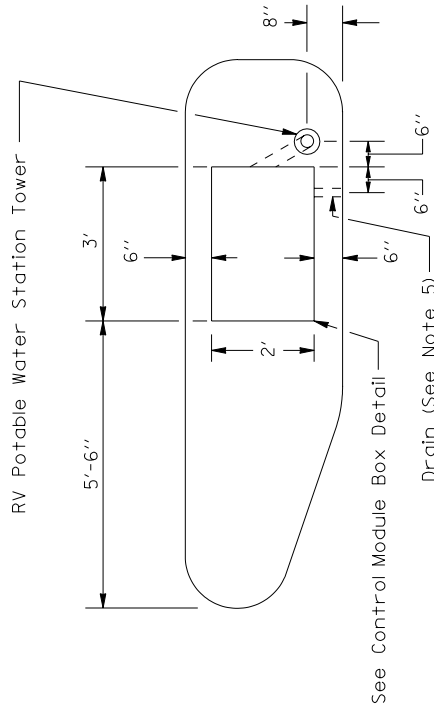
POTABLE WATER STATION PLAN VIEW



SECTION C-C

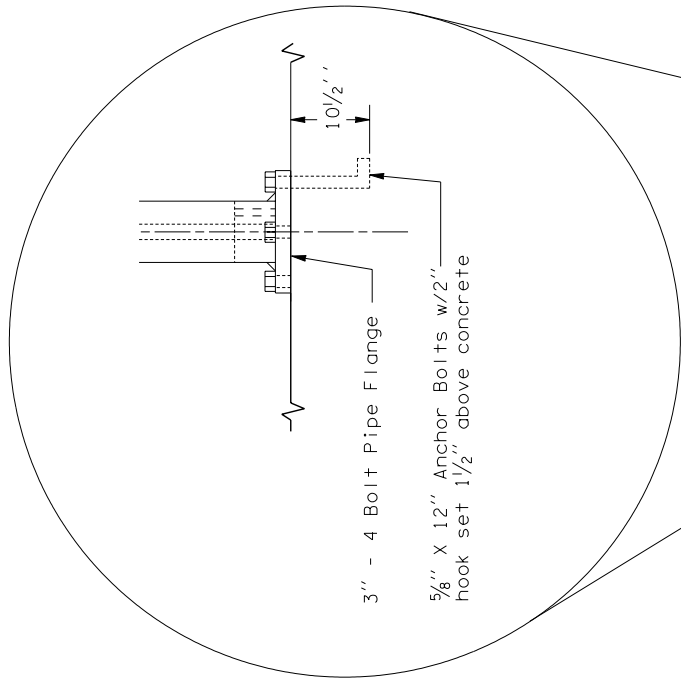


DETAIL C



POTABLE WATER STATION ISLAND DETAIL

See Detail C for island dimensions.



RV Potable Water Station Tower  
(Supplied by Contracting Agency)

3" X 12" ABS Long Turn 90

Potable Water Sign  
(Supplied by Contracting Agency)

2" Plastic Drain  
(See Note 5)

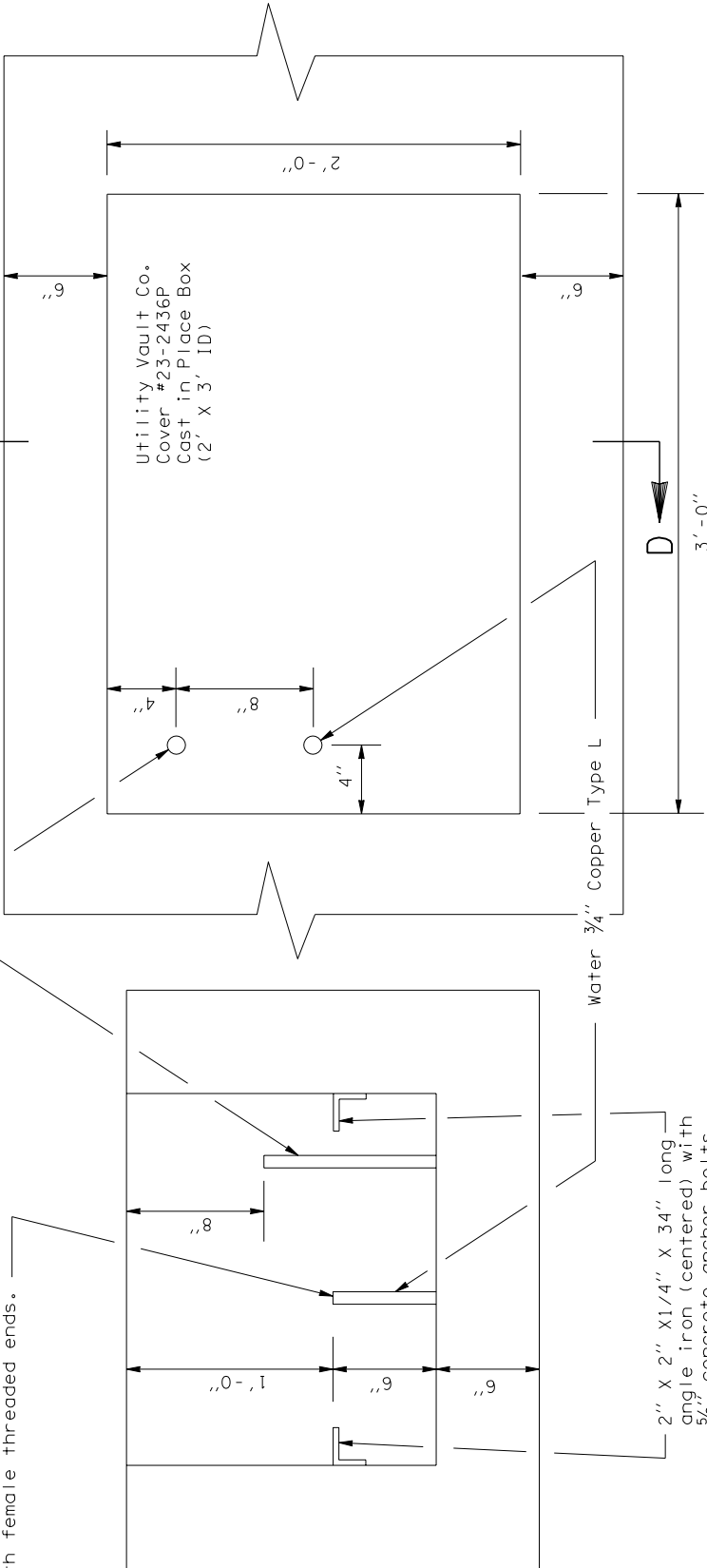
POTABLE WATER STATION FRONT ELEVATION

RV DUMP STATION

FILE NAME\$\$\$\$\$DESIGNFILENAME\$\$\$\$\$										FED.AID PROJ.NO.																				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3/4" conduit for power supply  
(See Power Supply Detail)

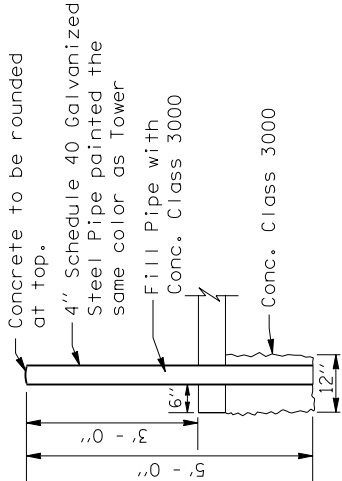
Terminate with 3/4" ball valve  
with female threaded ends.



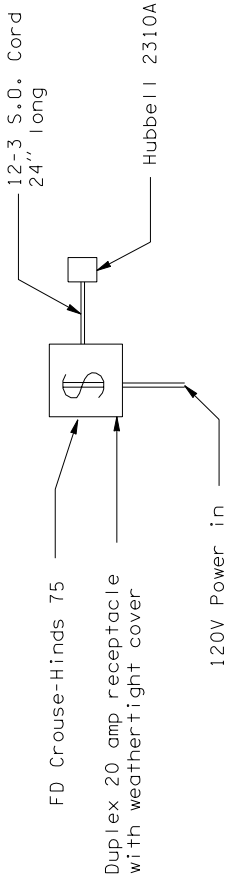
### CONTROL MODULE BOX DETAIL

Drain Pipe and 3" X 12" ABS Long Turn 90 not shown. See RV Dump Station Island Detail and RV Potable Water Station Island Detail for locations.

### SECTION D-D



### PROTECTIVE POST DETAIL



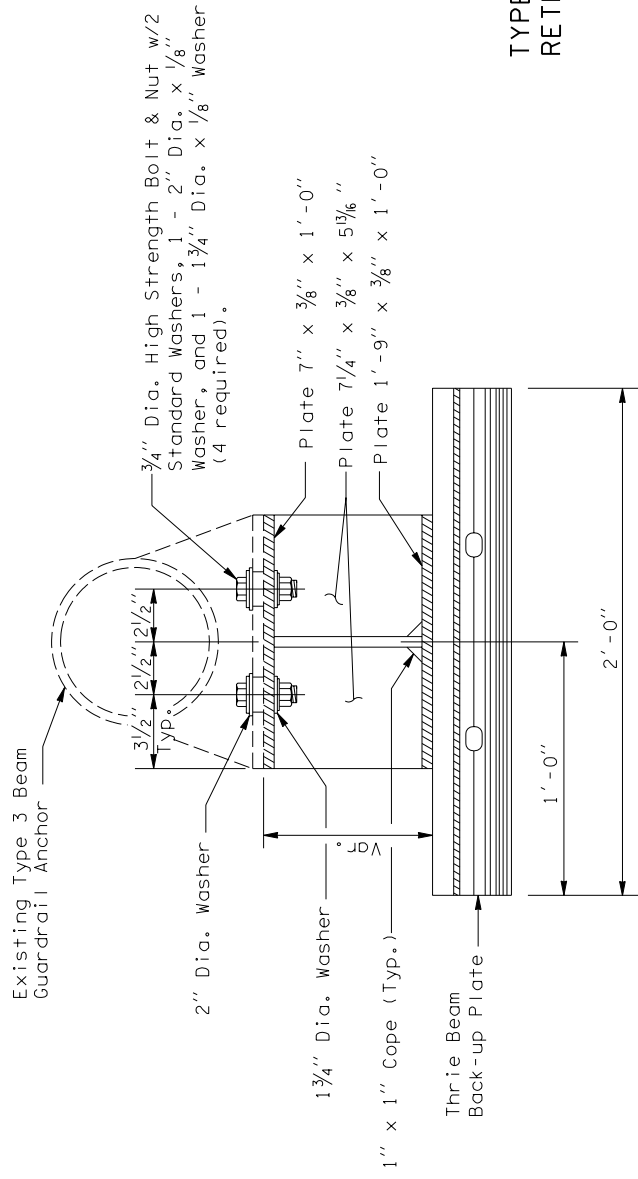
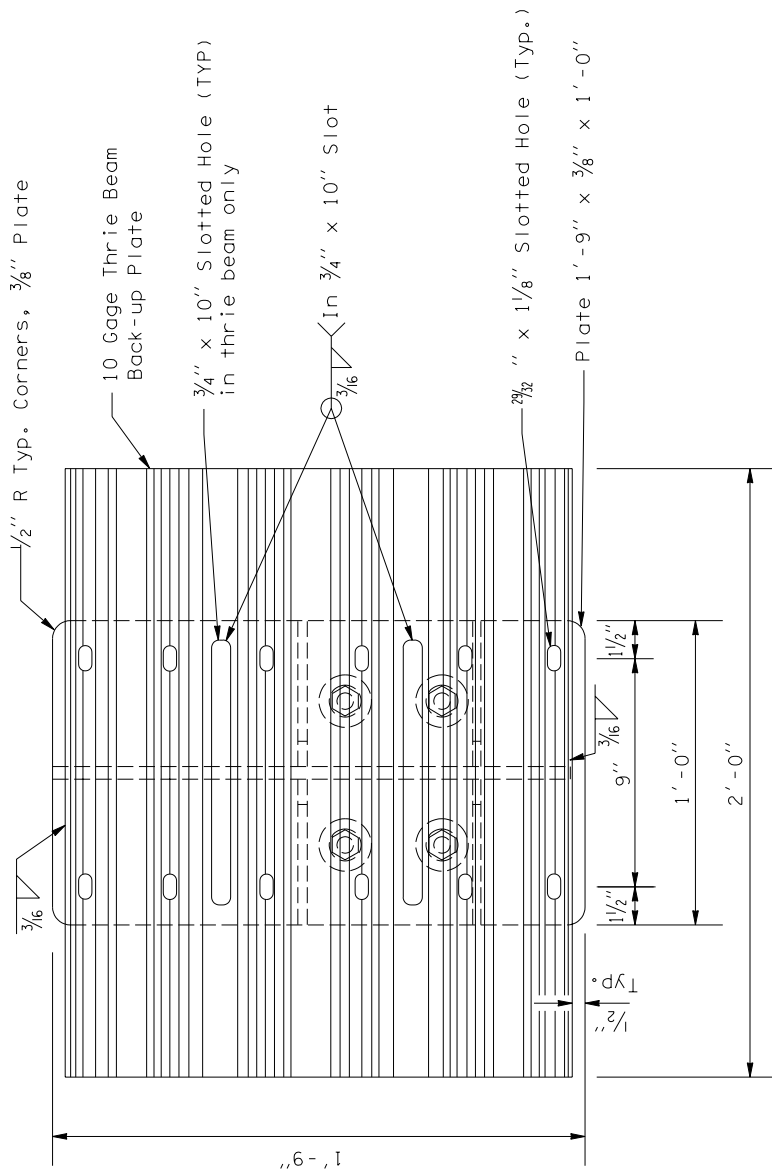
### POWER SUPPLY DETAIL

UTILITY VAULT #2436

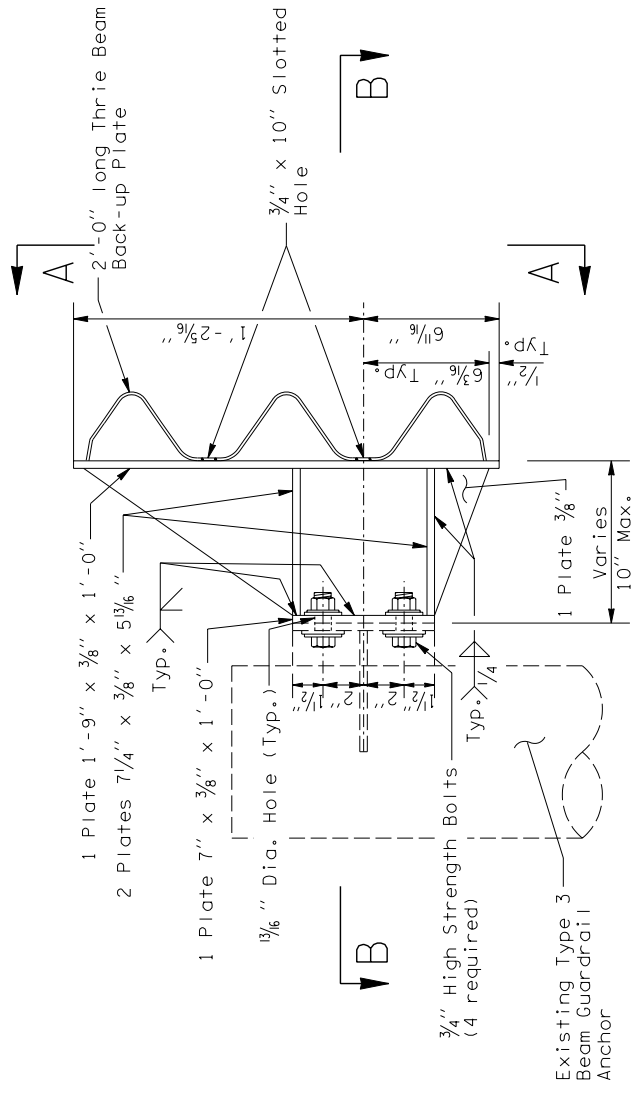
RV DUMP STATION

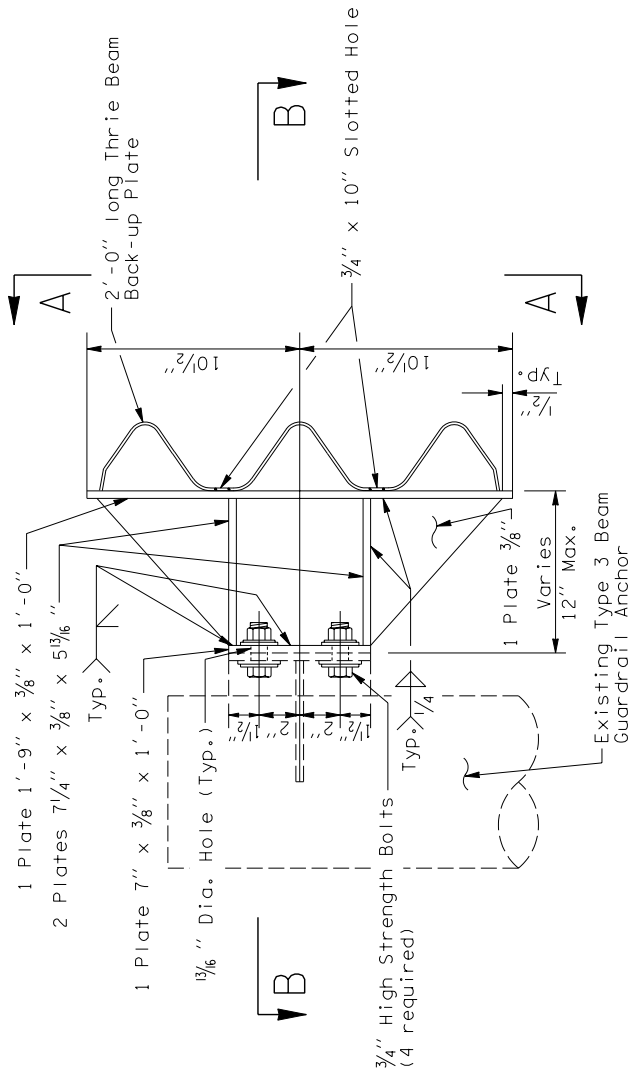
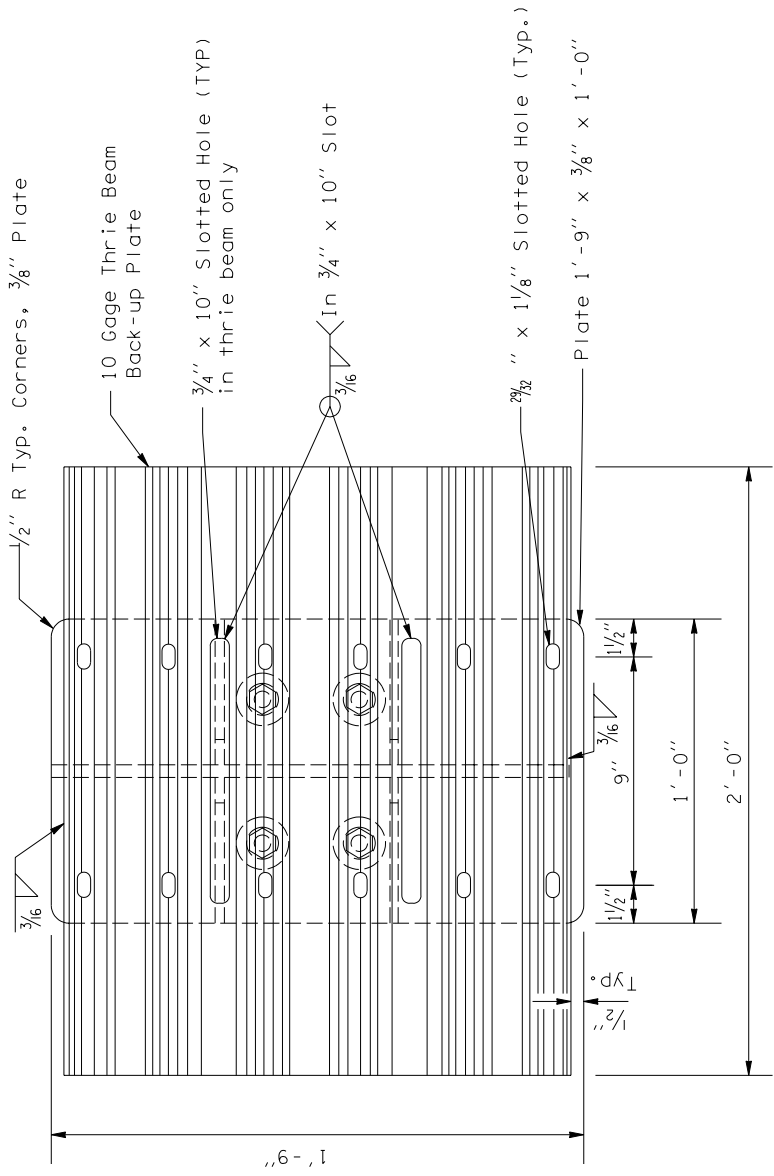
FILE NAME	\$\$\$\$\$DESIGNFILENAME\$\$\$\$\$	REGION NO.	STATE	FED.AID PROJ.NO.	Washington State Department of Transportation	PS1
TIME	\$TIME\$	10	WASH			
DATE	\$\$\$\$DATE\$\$\$	JOB NUMBER			SHEET OF	SHEETS
DESIGNED BY		CONTRACT NO.				
ENTERED BY		LOCATION NO.			P.E. STAMP BOX	P.E. STAMP BOX
CHECKED BY						
PROJ. ENGR.		DATE	BY		P.E. STAMP BOX	P.E. STAMP BOX
REGIONAL ADM.		REVISION				

GUARDRAIL ANCHOR  
RETROFIT

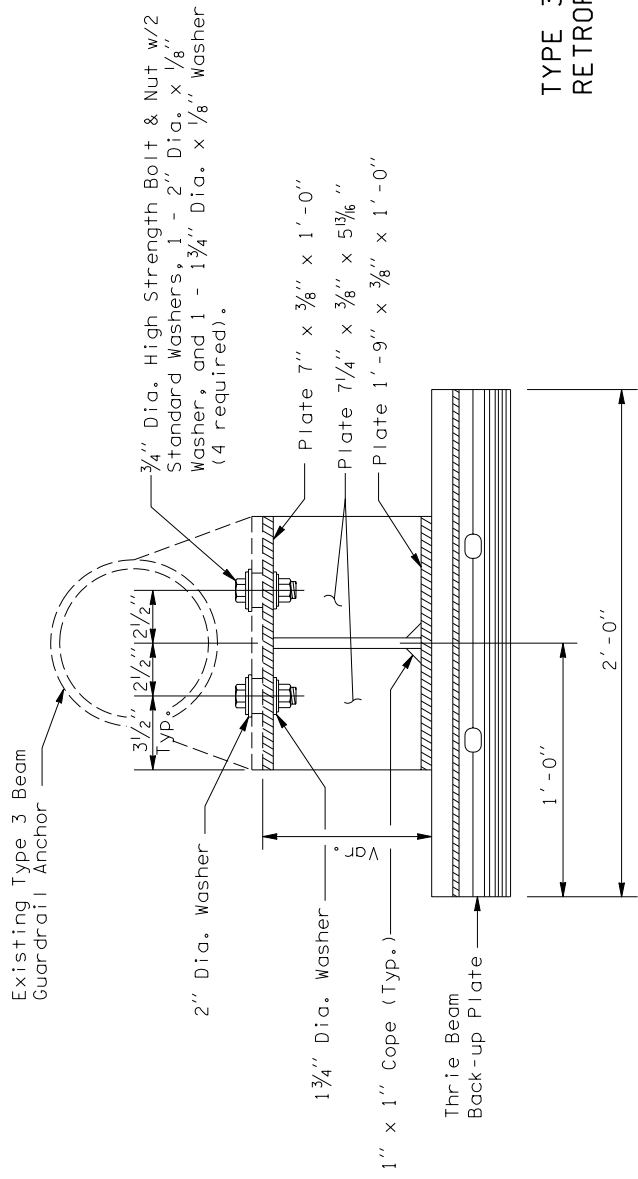


# TYPE 3 GUARDRAIL ANCHOR RETROFIT FOR THREE BEAM DESIGN A

[illegible]




# SIDE VIEW - DESIGN B



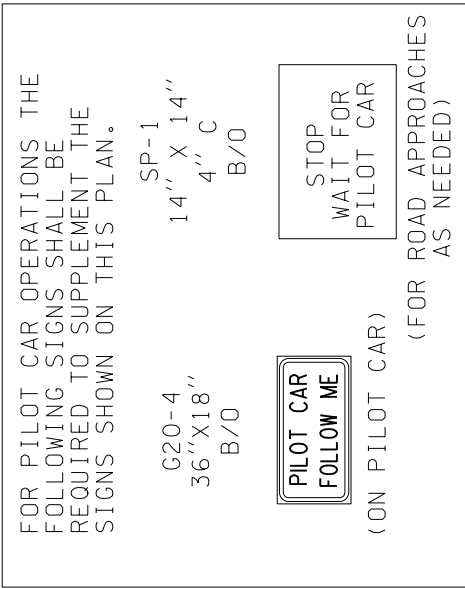
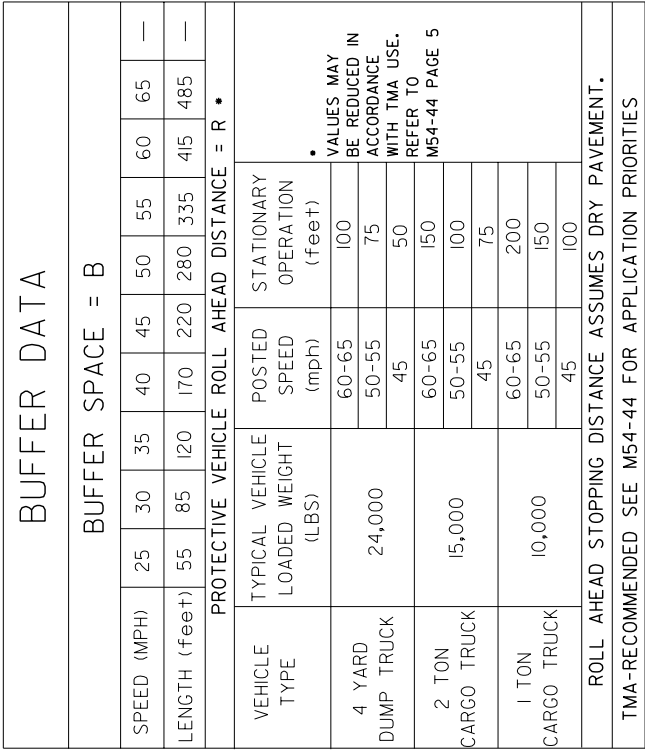
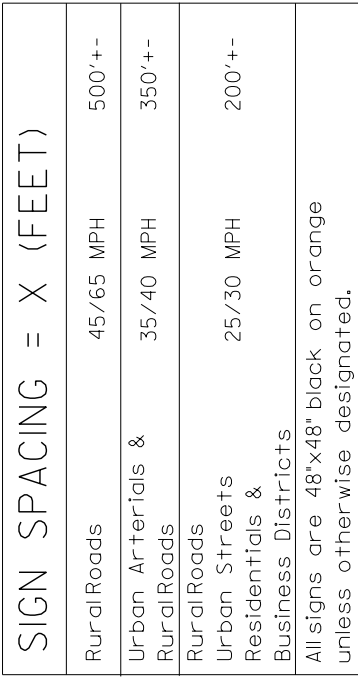
## SECTION B-B

# TYPE 3 GUARDRAIL ANCHOR RETROFIT FOR THRIE BEAM DESIGN B

[illegible]

 <b>Washington State</b> <b>Department of Transportation</b>	GUARDRAIL ANCHOR RETROFIT	PS 1
		SHEET OF SHEETS

TRAFFIC CONTROL  
PLANS



 SIGN LOCATION  
   TEMPORARY TRAFFIC CONTROL DEVICES  
 FLAGGING STATION

- ## GENERAL NOTES
1. WORK HOURS SHALL BE DAYLIGHT HOURS ONLY, UNLESS TRAFFIC VOLUMES OR EMERGENCIES DICTATE OTHERWISE.
  2. IF ENTIRE WORK AREA IS VISIBLE FROM ONE STATION, ONE FLAGGER MAY BE USED. OTHERWISE, ONE FLAGGER WILL BE REQUIRED FOR EACH DIRECTION.
  3. EXTEND DEVICES TAPER ACROSS SHOULDER.
  4. PROTECTIVE VEHICLE RECOMMENDED - MAY BE A WORK VEHICLE.
  5. SIGN SEQUENCE IS THE SAME FOR BOTH DIRECTIONS OF TRAVEL ON THE HIGHWAY.
  6. RADIO COMMUNICATION RECOMMENDED BETWEEN FLAGGERS. REQUIRED IF FLAGGERS DO NOT HAVE CLEAR VISION OF EACH OTHER.

ALTERNATING ONE-WAY TRAFFIC  
FLAGGER CONTROLLED / PILOT CAR CONTROLLED

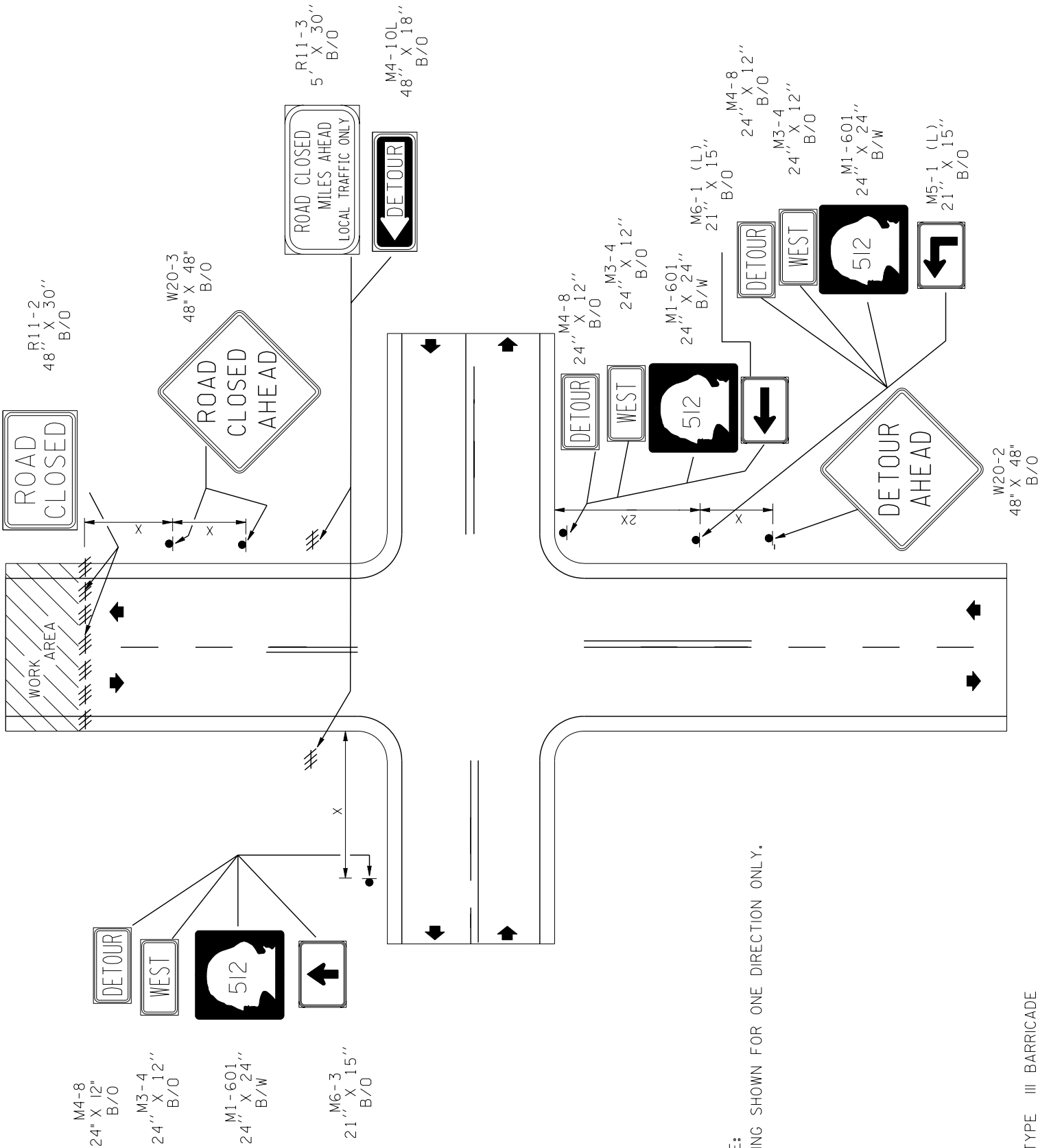
[illegible]

SIGN SPACING = X (FEET)		
Freeways & Expressways	55/70 MPH	1500' +- (OR AS PER MUTCD)
Rural Roads	45/55 MPH	500' +-
Urban Arterials & Rural Roads	35/40 MPH	350' +-
Rural Roads		
Urban Streets Residential & Business Districts	25/30 MPH	200' +-
All signs are 48"x48" black on orange unless otherwise designated.		

NOTE TO DESIGNER:  
IF TRAFFIC SAFETY DRUMS ARE REQUIRED, THEY MUST BE SPECIFIED. IF THE CONTRACTOR CAN USE TRAFFIC SAFETY DRUMS OR CONES, SPECIFY TEMPORARY TRAFFIC CONTROL DEVICES.  
  
ALL TRAFFIC CONTROL PLANS MUST BE PROJECT SPECIFIC. THESE PLANS MAY BE USED AS GUIDELINES.

GENERAL NOTES

1. MODIFY REGULATORY TRAFFIC CONTROL DEVICES FOR THE DURATION OF THE DETOUR.
2. FLASHING WARNING LIGHTS (TYPE A, MUTCD) SHALL BE USED TO MARK BARRICADES AT NIGHT.
3. DETOUR TRAILBLAZERS SHALL BE INSTALLED THROUGHOUT THE DETOUR.



NOTE:  
SIGNING SHOWN FOR ONE DIRECTION ONLY.

LEGEND

- III BARRICADE
- SIGN LOCATION - POST MOUNT

ROAD CLOSED, DETOUR

FILE NAME		\$\$\$DESIGNFILENAME\$\$\$\$\$		REGION NO.		STATE		FED.AID PROJ.NO.				PS1	
TIME	\$TIME\$			10	WASH								
DATE	\$\$\$DATE\$\$\$			JOB NUMBER						Washington State Department of Transportation		SHEET OF	
DESIGNED BY				CONTRACT NO.									
ENTERED BY										P.E. STAMP BOX		DATE	
CHECKED BY													
PROJ. ENGR.										P.E. STAMP BOX		DATE	
REGIONAL ADM.													
		REVISION		DATE	BY								

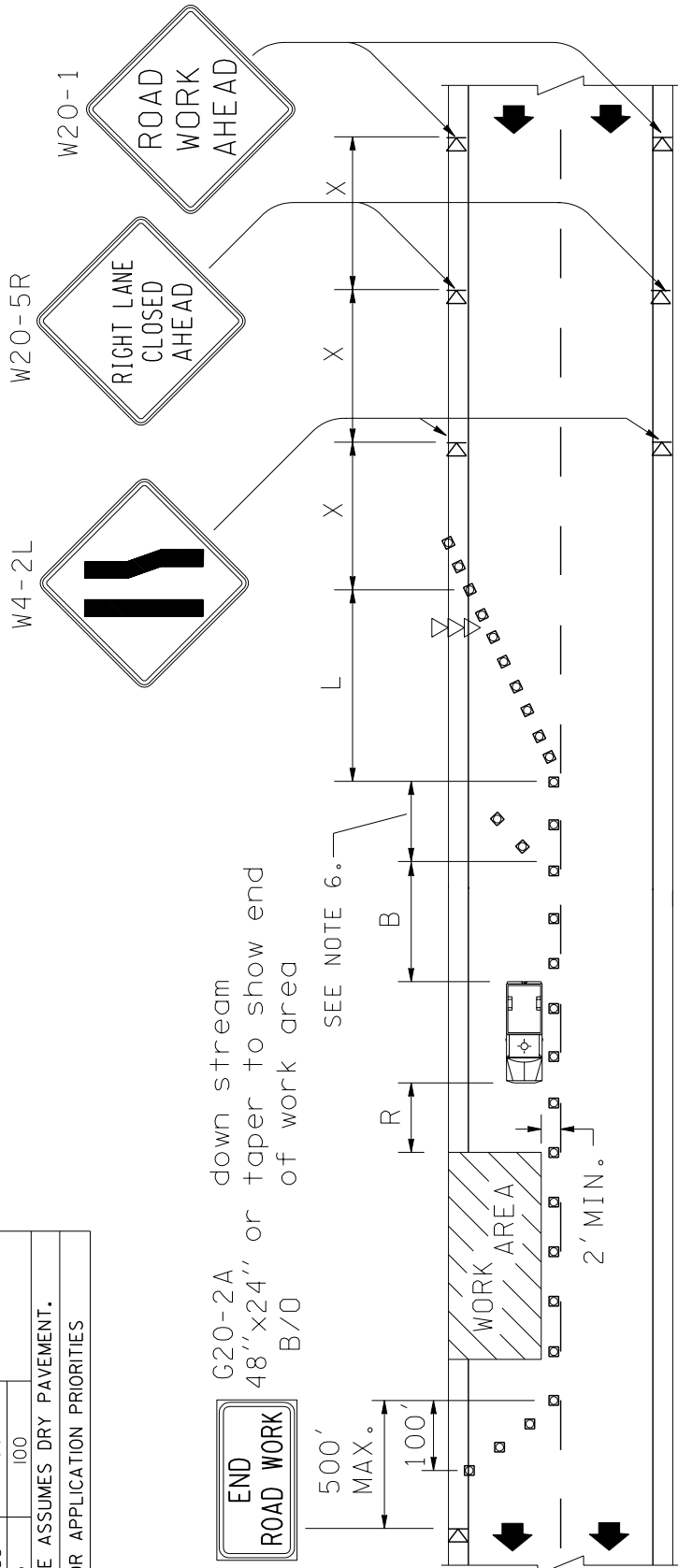


BUFFER DATA											
BUFFER SPACE = B											
SPEED (MPH)	25	30	35	40	45	50	55	60	65	—	
LENGTH (feet)	55	85	120	170	220	280	335	415	485	—	
PROTECTIVE VEHICLE ROLL AHEAD DISTANCE = R •											
VEHICLE TYPE	TYPICAL VEHICLE LOADED WEIGHT (LBS)	POSTED SPEED (mph)	STATIONARY OPERATION (feet)	• VALUES MAY BE REDUCED IN ACCORDANCE WITH TMA USE. REFER TO M54-44 PAGE 5							
4 YARD DUMP TRUCK	24,000	60-65	100								
		50-55	75								
		45	50								
2 TON CARGO TRUCK	15,000	60-65	150								
		50-55	100								
		45	75								
1 TON CARGO TRUCK	10,000	60-65	200								
		50-55	150								
		45	100								
ROLL AHEAD STOPPING DISTANCE ASSUMES DRY PAVEMENT.											
TMA-RECOMMENDED SEE M54-44 FOR APPLICATION PRIORITIES											

CHANNELIZING DEVICE SPACING (FEET)		
MPH	TAPER	TANGENT
50/70	40	80
35/45	30	60
25/30	20	40

Lane Width (feet)	MINIMUM TAPER LENGTH (L) IN FEET									
	25	30	35	40	45	50	55	60	65	70
10	-	-	-	265	450	500	550	-	-	-
11	-	-	-	295	495	550	605	660	-	-
12	-	-	-	320	540	600	660	720	780	840

SIGN SPACING = X (FEET)		
Freeways & Expressways	55/70 MPH	1500'+- (OR AS PER MUTCD)
Rural Roads	45/55 MPH	500'+-
Urban Arterials & Rural Roads	35/40 MPH	350'+-
Rural Roads		
Urban Streets	25/30 MPH	200'+-
Residential & Business Districts		
All signs are 48"x48" black on orange unless otherwise designated.		



(SAMPLE MESSAGE)

PCMS		
1	2	
RIGHT LANE CLOSED	1 MILE AHEAD	
1.5 SEC	1.5 SEC	

Field locate 1 mile +- in advance of lane closure.

### GENERAL NOTES

1. PROTECTIVE VEHICLE RECOMMENDED - MAY BE A WORK VEHICLE.
2. CONTACT REGION TRAFFIC OFFICE STAFF FOR WORK HOURS.
3. EXTEND DEVICE TAPER ACROSS SHOULDER.
4. DEVICES SHOULD NOT ENCROACH INTO ADJACENT LANES.
5. PCMS RECOMMENDED.
6. USE TRANSVERSE DEVICES IN CLOSED LANE EVERY 1000' +-.
7. TRAFFIC SAFETY DRUMS RECOMMENDED FOR FREEWAY USE (IN LIEU OF CONES).

### LEGEND

- ▤ SIGN LOCATION
- ▤▤▤ SEQUENTIAL ARROW SIGN
- ◻◻◻ TEMPORARY TRAFFIC CONTROL DEVICES
- 🚚 PROTECTIVE VEHICLE - RECOMMENDED

### SINGLE-LANE CLOSURE FOR MULTI-LANE ROADWAYS

FILE 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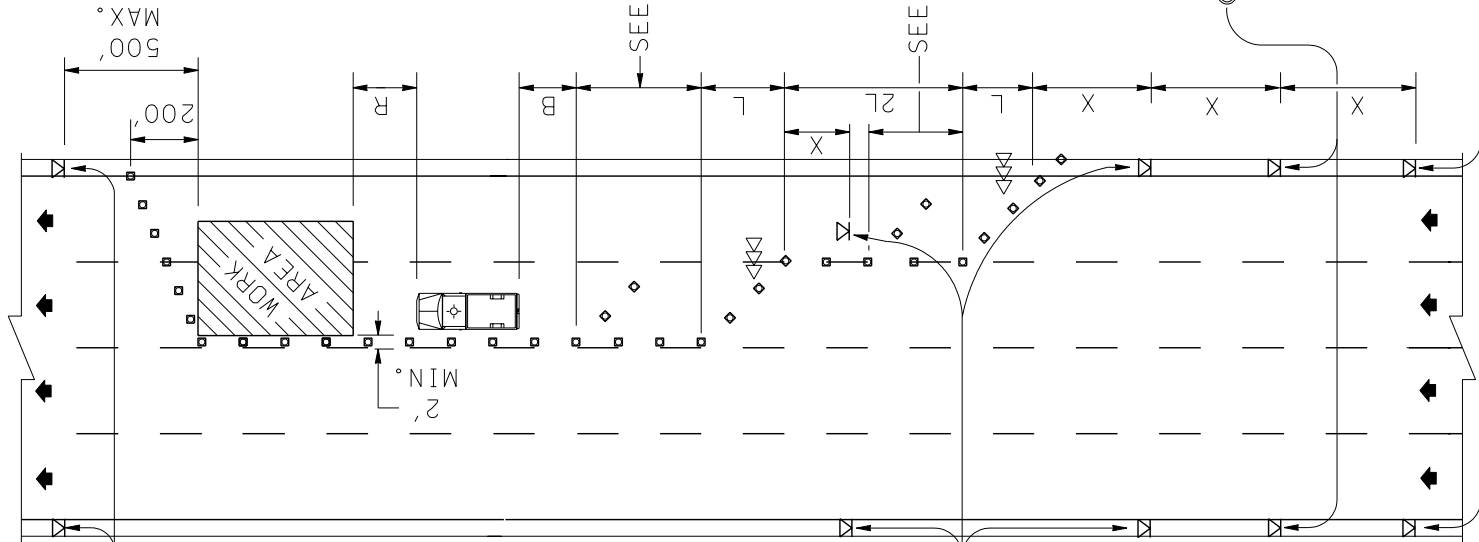
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SIGN SPACING = X (FEET)

Freeways & Expressways	55/70 MPH	1500'+- (OR AS PER MUTCD)
Urban Arterials	45/65 MPH	500'+-
Urban Arterials	40 MPH	350'+-
All signs are 48"x48" black on orange unless otherwise designated.		

NOTE TO DESIGNER:  
ALL TRAFFIC CONTROL PLANS  
MUST BE PROJECT SPECIFIC.  
THESE PLANS MAY BE USED  
AS GUIDELINES.

BUFFER DATA

BUFFER SPACE = B												
SPEED (MPH)	25	30	35	40	45	50	55	60	65	70		
LENGTH (feet)	-	-	-	170	220	280	335	415	485	585		
PROTECTIVE VEHICLE ROLL AHEAD DISTANCE = R *												
VEHICLE TYPE	TYPICAL VEHICLE LOADED WEIGHT (LBS)	POSTED SPEED (mph)	STATIONARY OPERATION (feet)	* VALUES MAY BE REDUCED IN ACCORDANCE WITH TMA USE. REFER TO M54-44 PAGE 5								
4 YARD DUMP TRUCK	24,000	60-65	100									
		50-55	75									
2 TON CARGO TRUCK	15,000	45	50									
		60-65	150									
1 TON CARGO TRUCK	10,000	50-55	100									
		45	75									
1 TON CARGO TRUCK	10,000	60-65	200									
		50-55	150									
			45	100								
ROLL AHEAD STOPPING DISTANCE ASSUMES DRY PAVEMENT.												
TMA-RECOMMENDED SEE M54-44 FOR APPLICATION PRIORITIES												

MINIMUM TAPER LENGTH (L) IN FEET

Lane Width (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
10	-	-	-	265	450	500	550	-	-	-
11	-	-	-	295	495	550	605	660	-	-
12	-	-	-	320	540	600	660	720	780	840

GENERAL NOTES

1. PROTECTIVE VEHICLE RECOMMENDED WHEN AVAILABLE - MAY BE A WORK VEHICLE.
2. CONTACT REGION TRAFFIC OFFICE STAFF FOR WORK HOURS.
3. EXTEND DEVICE TAPER ACROSS SHOULDER.
4. DEVICES SHALL NOT ENCROACH INTO ADJACENT LANES.
5. PCMS RECOMMENDED.
6. USE TRANSVERSE DEVICES IN CLOSED LANE EVERY 1000' +-
7. TRAFFIC SAFETY DRUMS RECOMMENDED FOR ALL TAPERS.

DOUBLE-LANE CLOSURE  
FOR MULTI-LANE FREEWAYS

FILE NAME	\$\$\$\$\$DESIGNFILENAME\$\$\$\$\$					REGION NO.	STATE	FED.AID PROJ.NO.		
TIME	\$TIME\$					10	WASH			
DATE	\$\$\$\$DATE\$\$\$						JOB NUMBER			
DESIGNED BY							CONTRACT NO.			LOCATION NO.
ENTERED BY										
CHECKED BY										
PROJ. ENGR.										
REGIONAL ADM.										



Washington State  
Department of Transportation

REVISION

DATE

BY

LOCATION NO.

P.E. STAMP BOX

P.E. STAMP BOX

DATE

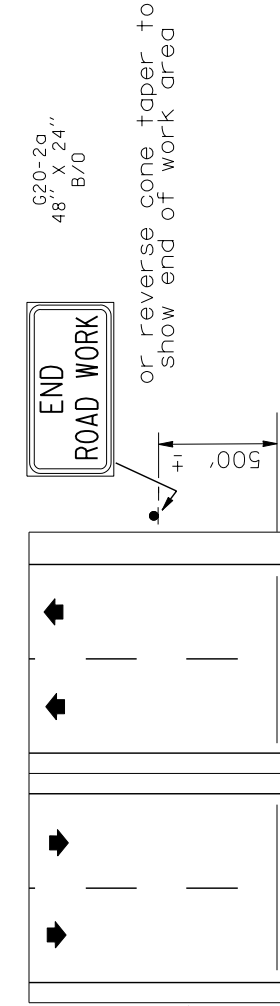
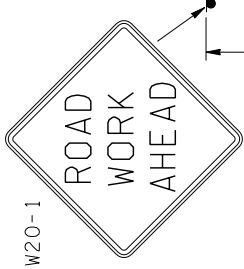
PS1

SHEET

OF

SHEETS

CHANNELIZING DEVICE SPACING (FEET)		
MPH	TAPER	TANGENT
50/70	40	80
40/45	30	60



•• TEMPORARY IMPACT ATTENUATOR APPROVED LIST

- A. INERTIAL BARRIERS (SAND BARRELS):
- FITCH SAND BARREL SYSTEM TYPE 5
  - ENERGY ABSORPTION-ENERGITE SYSTEM TYPE 5
- B. CRASH CUSHIONS:
- ENERGY ABSORPTION -QUADGUARD, GREAT C2(G6bx)
  - SYRO - ADIEM II
  - ROADWAY SAFETY SERVICES -REACT 350(9CYLINDER)
  - NEAT

•• VERIFY LIST FOR CURRENT, PRIOR TO INSERTING INTO CONTRACT PLANS

PCMS		
1	2	
RIGHT LANE CLOSED	ONE MILE AHEAD	
1.5 SEC	1.5 SEC	

FIELD LOCATE 1 MILE (+-) IN ADVANCE OF LANE CLOSURE

LEGEND

- TEMPORARY TRAFFIC CONTROL DEVICE
- TRAFFIC SAFETY DRUMS
- OBLITERATED MARKINGS (see notes)
- TEMPORARY CONCRETE BARRIER W/REFLECTORS
- SEQUENTIAL ARROW SIGN
- TEMPORARY IMPACT ATTENUATORS (see notes)

PORTABLE CHANGEABLE MESSAGE SIGN

LANE CLOSURE WITH BARRIER

CHANNELIZING DEVICE SPACING (FEET)			
MPH	TAPER	TANGENT	
50/70	40	80	
35/45	30	60	
25/30	20	40	

NOTE TO DESIGNER:

IF TRAFFIC SAFETY DRUMS ARE REQUIRED, THEY MUST BE SPECIFIED. IF THE CONTRACTOR CAN USE TRAFFIC SAFETY DRUMS OR CONES, SPECIFY TEMPORARY TRAFFIC CONTROL DEVICES

ALL TRAFFIC CONTROL PLANS MUST BE PROJECT SPECIFIC. THESE PLANS MAY BE USED AS GUIDELINES.

GENERAL NOTES

- EXISTING CONFLICTING PAVEMENT MARKINGS NO LONGER APPLICABLE SHALL BE REMOVED OR OBLITERATED.
- TEMPORARY MARKINGS SHALL BE USED AS NECESSARY.
- EXPOSED ENDS OF CONCRETE BARRIERS SHALL BE MAINTAINED OUTSIDE THE CLEAR ZONE AND ADEQUATELY FLARED OR FITTED WITH IMPACT ATTENUATORS.
- STEADY BURNING WARNING LIGHTS (TYPE C, MUTCD) SHALL BE USED TO MARK CHANNELIZING DEVICES AT NIGHT AS NEEDED.
- ROADSIDE BARRIERS AND END TREATMENT SHALL BE CRASHWORTHY.

SIGN SPACING = X (FEET)

Freeways & Expressways	55/70 MPH	1500'++ (OR AS PER MUTCD)
Rural Roads	45/55 MPH	500'++
Urban Arterials & Rural Roads	35/40 MPH	350'++
Rural Roads Urban Streets Residential & Business Districts	25/30 MPH	200'++
All signs are 48"x48" black on orange unless otherwise designated.		

MINIMUM TAPER LENGTH (L) IN FEET

L Length (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
10	105	150	205	265	450	500	550	-	-	-
11	115	165	225	295	495	550	605	660	-	-
12	125	180	245	320	540	600	660	720	780	840

FILE NAME	\$\$\$\$\$DESIGNFILENAME\$\$\$\$\$					FED.AID PROJ.NO.			
TIME	\$TIME\$					REGION NO.	STATE	10	WASH
DATE	\$\$\$\$DATE\$\$\$					JOB NUMBER			
DESIGNED BY						CONTRACT NO.			LOCATION NO.
ENTERED BY									
CHECKED BY									
PROJ. ENGR.									
REGIONAL ADM.						DATE	BY		

REVISION

DATE

BY

CONTRACT NO.

LOCATION NO.

P.E. STAMP BOX

P.E. STAMP BOX

DATE



Washington State  
Department of Transportation

PS1

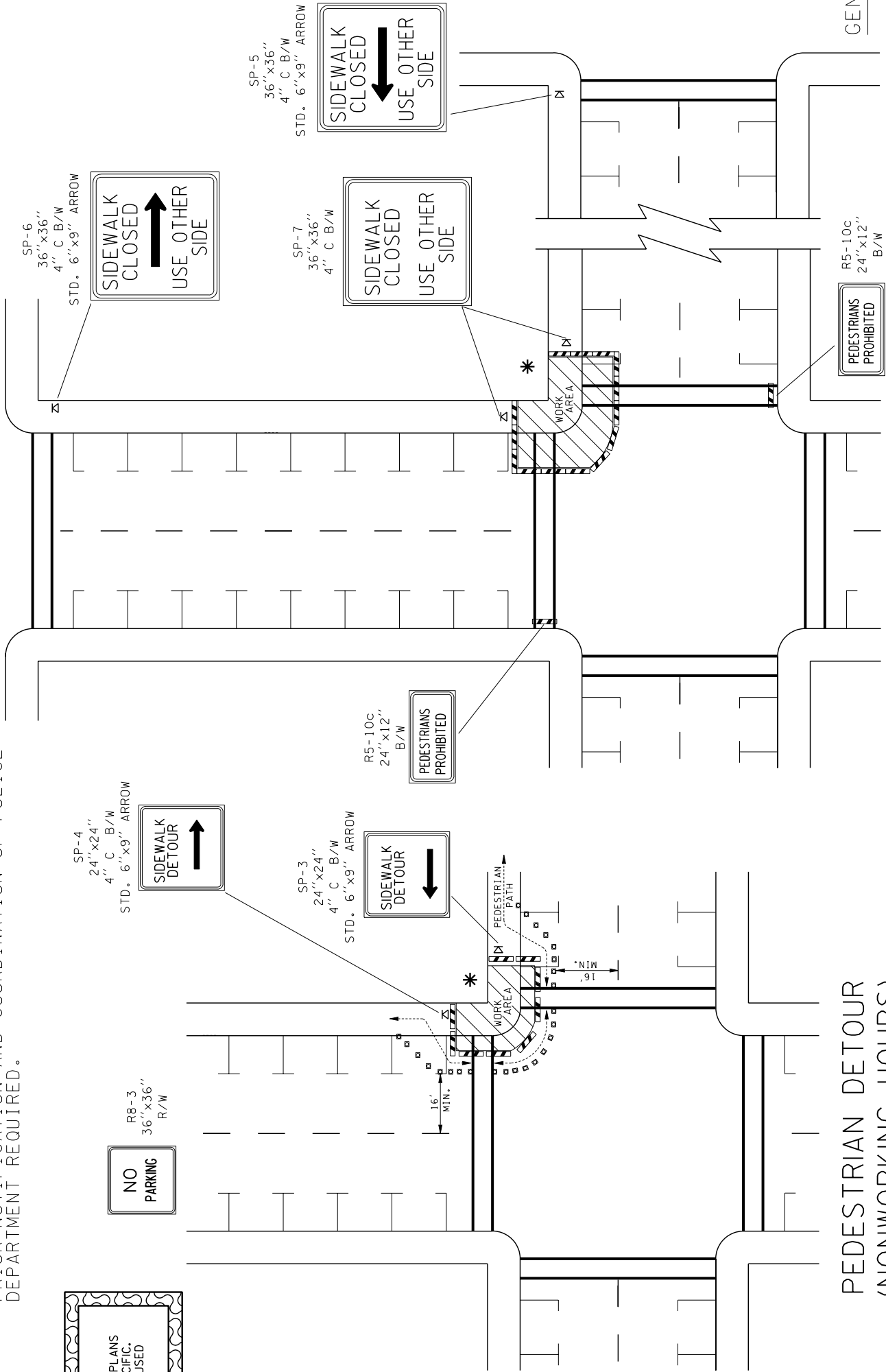
SHEET

OF

SHEETS

\* INSTALL ON TYPE II BARRICADES THROUGHOUT THE WORK AREA 24 HOURS PRIOR TO IMPLEMENTING TRAFFIC CONTROL. PRIOR NOTIFICATION AND COORDINATION OF POLICE DEPARTMENT REQUIRED.

NOTE TO DESIGNER:  
ALL TRAFFIC CONTROL PLANS MUST BE PROJECT SPECIFIC. THESE PLANS MAY BE USED AS GUIDELINES.



PEDESTRIAN DETOUR  
(NONWORKING HOURS)

LEGEND

⌵ SIGN LOCATION

▣ TEMPORARY TRAFFIC CONTROL DEVICES

▨ TYPE II BARRICADE

PEDESTRIAN DETOUR  
(WORKING HOURS)

INTERSECTION PEDESTRIAN  
TRAFFIC CONTROL

FILE NAME	\$\$\$\$\$DESIGNFILENAME\$\$\$\$\$	REGION NO.	STATE	FED.AID PROJ.NO.
TIME	\$TIME\$	10	WASH	
DATE	\$\$\$\$\$DATE\$\$\$	JOB NUMBER		
DESIGNED BY		CONTRACT NO.		LOCATION NO.
ENTERED BY				
CHECKED BY				
PROJ. ENGR.				
REGIONAL ADM.		DATE	BY	
		REVISION		



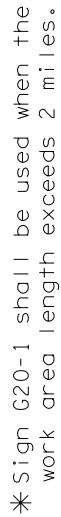
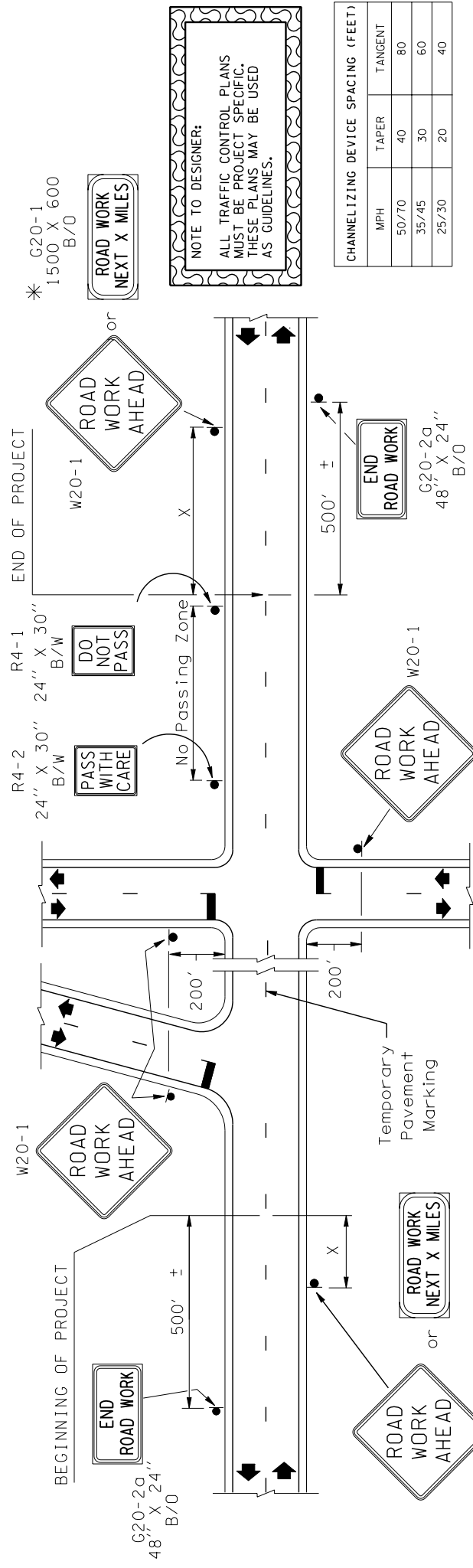
Washington State  
Department of Transportation

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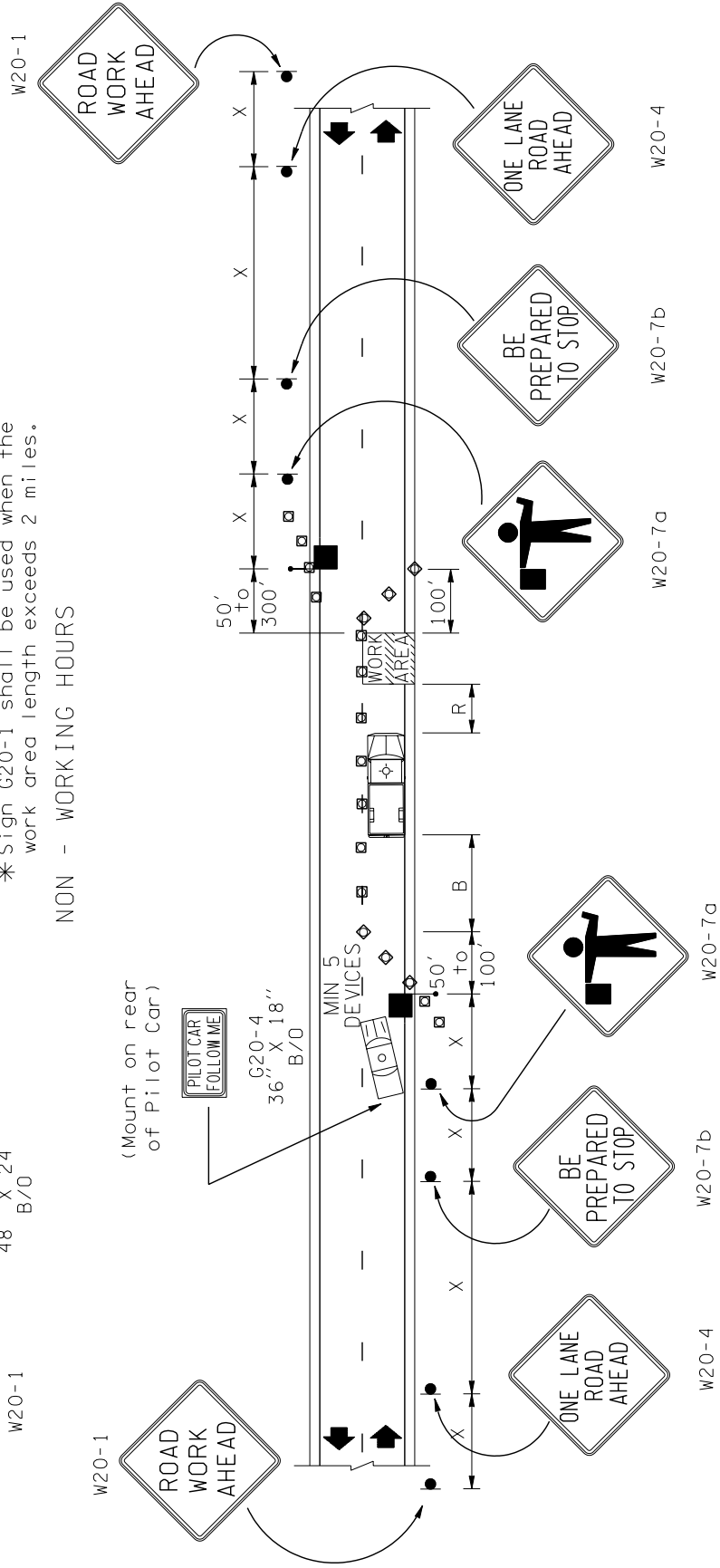
SHEET

OF

SHEETS



NON - WORKING HOURS



## LEGEND

-  TEMPORARY TRAFFIC CONTROL DEVICES
  -  FLAGGER STATION
  -  PROTECTIVE VEHICLE

PILOT CAR CONTROLLED ONE WAY TRAFFIC

## TWO-LANE PAVING OPERATIONS

Install this sign as needed within work area to control intersection traffic

## GENERAL NOTES

1. OTHER WARNING SIGNS, SUCH AS LOOSE GRAVEL, TRUCK CROSSING, BUMP, ABRUPT LANE EDGE, ETC. SHALL BE USED AS NECESSARY ALONG WITH ADVISORY SPEED SIGNS.
2. ADVISORY SPEED SIGNS ARE DETERMINED BY THE ENGINEER.
3. FLOODLIGHTS SHALL BE PROVIDED TO MARK FLAGGER STATIONS AT NIGHT.
4. PROTECTIVE VEHICLE MAY BE A WORK VEHICLE.
5. EXTEND DEVICE TAPER ACROSS SHOULDER.

SP-1  
14" X 14"  
Red/white  
4"

FILE NAME	\$\$\$\$\$DESIGNFILENAME\$\$\$\$\$	REGION	STATE	FED. AID PROJ. NO.
TIME	\$TIME\$	10	WASH	
DATE	\$\$\$DATE\$\$\$		JOB NUMBER	
DESIGNED BY			CONTRACT NO.	
ENTERED BY				
CHECKED BY				
PROJ. ENGR.				
REGIONAL ADM.				
	REVISION	DATE	BY	



**Washington State  
Department of Transportation**

REGIONAL ADM.	REVISION	DATE	BY
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P.E. STAMP BOX

P.E. STAMP BOX  
DATE \_\_\_\_\_

PS1

SHEET

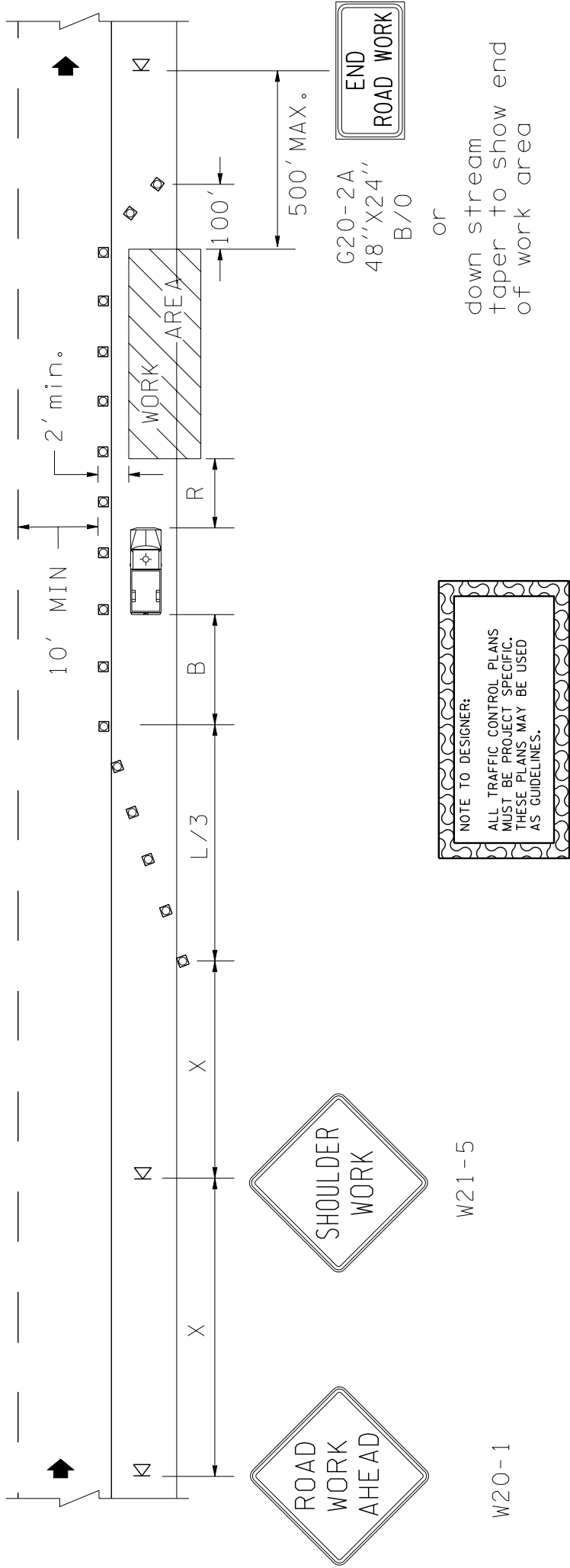


BUFFER DATA												
BUFFER SPACE = B												
SPEED (MPH)	25	30	35	40	45	50	55	60	65	70		
LENGTH (feet)	55	85	120	—	—	—	—	—	—	—		
PROTECTIVE VEHICLE ROLL AHEAD DISTANCE = R •												
VEHICLE TYPE	TYPICAL VEHICLE LOADED WEIGHT (LBS)		POSTED SPEED (mph)		STATIONARY OPERATION (feet)		• VALUES MAY BE REDUCED IN ACCORDANCE WITH TMA USE. REFER TO M54-44 PAGE 5					
4 YARD DUMP TRUCK	24,000		60-70		-----							
			50-55		-----							
2 TON CARGO TRUCK		45		50								
		60-70		-----								
1 TON CARGO TRUCK		50-55		-----								
		45		75								
		60-70		-----								
		50-55		-----								
ROLL AHEAD STOPPING DISTANCE ASSUMES DRY PAVEMENT			45		100							
TMA-RECOMMENDED SEE M54-44 FOR APPLICATION PRIORITIES												

SIGN SPACING = X (FEET)		
Urban Arterials	35 MPH	350'+-
Urban Streets Residential & Business Districts	25/30 MPH	200'+-
All signs are 48"x48" black on orange unless otherwise designated.		

CHANNELIZING DEVICE SPACING (FEET)		
MPH	TAPER	TANGENT
35	30	60
25/30	20	40

MINIMUM TAPER LENGTH (L) IN FEET										
Lane Width (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
10	105	150	205	-	-	-	-	-	-	-
11	115	165	225	-	-	-	-	-	-	-
12	125	180	245	-	-	-	-	-	-	-



LEGEND

- SIGN LOCATION
- 🚧 TEMPORARY TRAFFIC CONTROL DEVICES
- 🚚 PROTECTIVE VEHICLE - RECOMMENDED

GENERAL NOTES

- SHOULDER CLOSURE - LOW SPEED  
(35 MPH OR LESS)
- PROTECTIVE VEHICLE RECOMMENDED - MAY BE A WORK VEHICLE.

FILE NAME	\$\$\$\$\$DESIGNFILENAME\$\$\$\$\$	REGION NO.	STATE	FED.AID PROJ.NO.	P.E. STAMP BOX									
TIME	\$TIME\$	10	WASH											
DATE	\$\$\$DATE\$\$\$	JOB NUMBER	CONTRACT NO.	LOCATION NO.	P.E. STAMP BOX		PS1							
DESIGNED BY							<div>SHEET OF SHEETS</div>							
ENTERED BY														
CHECKED BY														
PROJ. ENGR.														
REGIONAL ADM.														

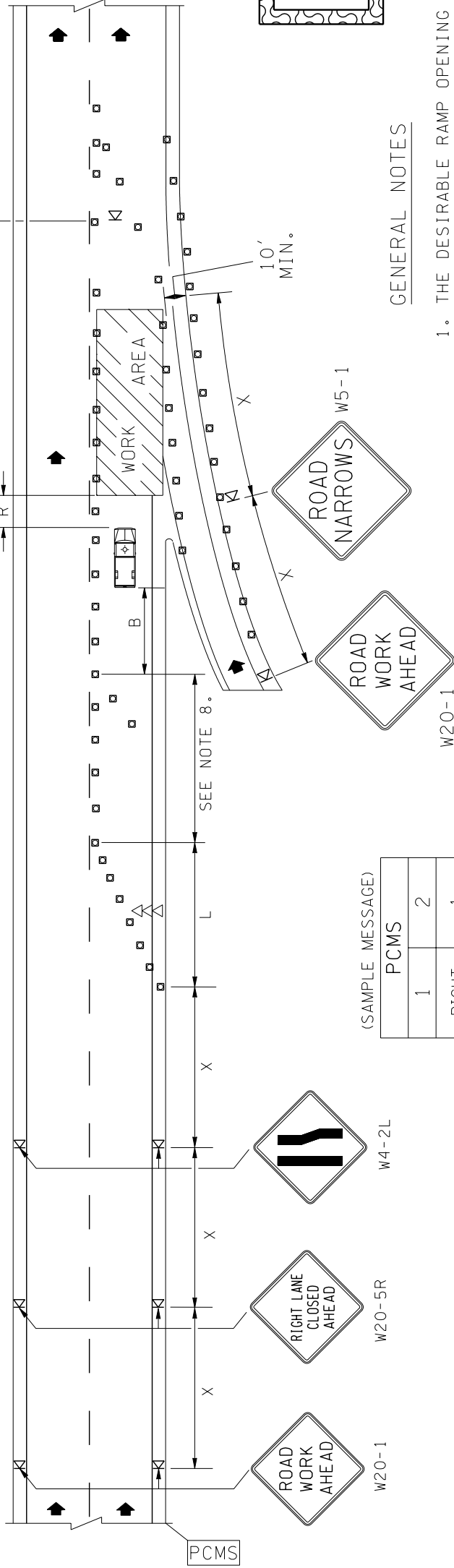


BUFFER DATA											
BUFFER SPACE = B											
SPEED (MPH)	25	30	35	40	45	50	55	60	65	70	
LENGTH (feet)	-	-	-	170	220	280	335	415	485	585	
PROTECTIVE VEHICLE ROLL AHEAD DISTANCE = R •											
VEHICLE TYPE	TYPICAL VEHICLE LOADED WEIGHT (LBS)	POSTED SPEED (mph)	STATIONARY OPERATION (feet)	• VALUES MAY BE REDUCED IN ACCORDANCE WITH TMA USE. REFER TO M54-44 PAGE 5							
4 YARD DUMP TRUCK	24,000	60-65	100								
		50-55	75								
2 TON CARGO TRUCK	15,000	60-65	150								
		50-55	100								
1 TON CARGO TRUCK	10,000	45	75								
		60-65	200								
		50-55	150								
				45	100						
ROLL AHEAD STOPPING DISTANCE ASSUMES DRY PAVEMENT.											
TMA-RECOMMENDED SEE M54-44 FOR APPLICATION PRIORITIES											

SIGN SPACING = X (FEET)		
Freeways & Expressways	55/70 MPH	1500'+- (OR AS PER MUTCD)
Rural Roads	45/65 MPH	500'+-
Urban Arterials	40 MPH	350'+-
All signs are 48"x48" black on orange unless otherwise designated.		

CHANNELIZING DEVICE SPACING (FEET)		
MPH	TAPER	TANGENT
50/70	40	80
40/45	30	60

(Optional)  
W4-3



### LEGEND

- SIGN LOCATION
- SEQUENTIAL ARROW SIGN
- ☑ ☑ TEMPORARY TRAFFIC CONTROL DEVICES
- ☑ PROTECTIVE VEHICLE - RECOMMENDED
- ☑ PORTABLE CHANGEABLE MESSAGE SIGN
- TEMPORARY ON-RAMP (RIGHT LANE CLOSED)
- 1. THE DESIRABLE RAMP OPENING WIDTH IS 14'.
- 2. A G20-2A END ROAD WORK SIGN SHOULD BE INSTALLED ABOUT 500 FEET BEYOND THE WORK AREA OR USE A DOWN STREAM TAPER.
- 3. CONTACT REGION TRAFFIC OFFICE STAFF FOR WORK HOURS.
- 4. PROTECTIVE VEHICLE RECOMMENDED - MAY BE A WORK VEHICLE.
- 5. EXTEND DEVICE TAPER ACROSS SHOULDER.
- 6. PCMS RECOMMENDED.
- 7. TRAFFIC SAFETY DRUMS RECOMMENDED FOR FREEWAY USE (IN LIEU OF CONES).
- 8. USE TRANSVERSE DEVICES IN CLOSED LANE EVERY 1000' +-

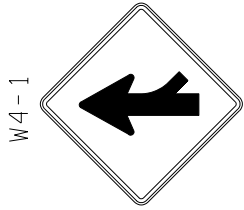
FILE NAME	\$\$\$\$\$DESIGNFILENAME\$\$\$\$\$	REGION NO.	STATE	FED.AID PROJ.NO.
TIME	\$TIME\$	10	WASH	
DATE	\$\$\$\$\$DATE\$\$\$	JOB NUMBER		
DESIGNED BY		CONTRACT NO.		LOCATION NO.
ENTERED BY				
CHECKED BY				
PROJ. ENGR.		DATE	BY	
REGIONAL ADM.		REVISION		
P.E. STAMP BOX				
P.E. STAMP BOX				
PS1				
SHEET OF SHEETS				

BUFFER DATA												
BUFFER SPACE = B												
SPEED (MPH)	25	30	35	40	45	50	55	60	65	70		
LENGTH (feet)	-	-	-	-	170	220	280	335	415	485	585	
PROTECTIVE VEHICLE ROLL AHEAD DISTANCE = R •												
VEHICLE TYPE	TYPICAL VEHICLE LOADED WEIGHT (LBS)		POSTED SPEED (mph)		STATIONARY OPERATION (feet)		• VALUES MAY BE REDUCED IN ACCORDANCE WITH TMA USE. REFER TO M54-44 PAGE 5					
4 YARD DUMP TRUCK	24,000		60-65		100							
			50-55		75							
2 TON CARGO TRUCK	15,000		45		50							
			60-65		150							
1 TON CARGO TRUCK	10,000		50-55		100							
			45		75							
1 TON CARGO TRUCK	10,000		60-65		200							
			50-55		150							
				45		100						
ROLL AHEAD STOPPING DISTANCE ASSUMES DRY PAVEMENT.												
TMA-RECOMMENDED SEE M54-44 FOR APPLICATION PRIORITIES												

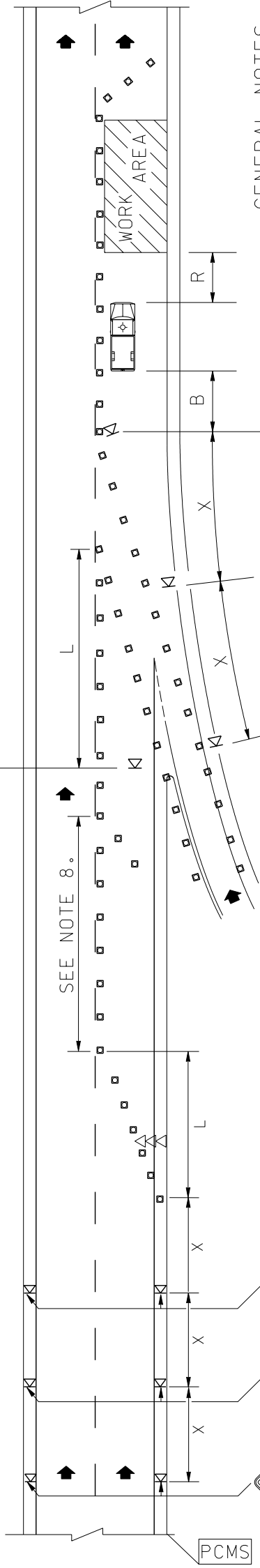
SIGN SPACING = X (FEET)		
Freeways & Expressways	55/70 MPH	1500' +- (OR AS PER MUTCD)
Rural Roads	45/65 MPH	500' +-
Urban Arterials	40 MPH	350' +-
All signs are 48"x48" black on orange unless otherwise designated.		

CHANNELIZING DEVICE SPACING (FEET)		
MPH	TAPER	TANGENT
50/70	40	80
40/45	30	60

MINIMUM TAPER LENGTH (L) IN FEET										
Lane Width (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
10	-	-	-	265	450	500	550	-	-	-
11	-	-	-	295	495	550	605	660	-	-
12	-	-	-	320	540	600	660	720	780	840



W4-1



(SAMPLE MESSAGE)

PCMS	
1	2
RIGHT LANE CLOSED	1 MILE AHEAD
1.5 SEC	1.5 SEC

Field locate 1 mile +- in advance of lane closure.

### GENERAL NOTES

1. THE DESIRABLE RAMP OPENING WIDTH IS 14'.
2. A G20-2A END ROAD WORK SIGN SHOULD BE INSTALLED ABOUT 500 FEET BEYOND THE WORK AREA OR USE A DOWN STREAM TAPER.
3. CONTACT REGION TRAFFIC OFFICE STAFF FOR WORK HOURS.
4. PROTECTIVE VEHICLE RECOMMENDED - MAY BE A WORK VEHICLE.
5. EXTEND DEVICE TAPER ACROSS SHOULDER.
6. PCMS RECOMMENDED.
7. TRAFFIC SAFETY DRUMS RECOMMENDED FOR FREEWAY USE (IN LIEU OF CONES).
8. USE TRANSVERSE DEVICES IN CLOSED LANE EVERY 1000' +-.
9. IF ADEQUATE ACCELERATION DISTANCE IS NOT POSSIBLE "YIELD AHEAD" AND "YIELD" SIGNS SHALL BE REPLACED WITH "STOP AHEAD" AND "STOP" SIGNS. STOP SIGNS SHALL BE PLACED ON EACH SIDE OF THE APPROACH.

W20-1

W3-2

R1-2

48" R/W

YIELD

WORK AREA

PCMS

SEE NOTE 8.

L

X

B

R

YIELD AHEAD

ROAD WORK AHEAD

RIGHT LANE CLOSED AHEAD

WORK AREA

PCMS

SEE NOTE 8.

L

X

B

R

YIELD AHEAD

ROAD WORK AHEAD

RIGHT LANE CLOSED AHEAD

WORK AREA

PCMS

SEE NOTE 8.

L

X

B

R

YIELD AHEAD

ROAD WORK AHEAD

RIGHT LANE CLOSED AHEAD

WORK AREA

PCMS

SEE NOTE 8.

L

X

B

R

YIELD AHEAD

ROAD WORK AHEAD

RIGHT LANE CLOSED AHEAD

WORK AREA

PCMS

SEE NOTE 8.

L

X

B

R

YIELD AHEAD

ROAD WORK AHEAD

RIGHT LANE CLOSED AHEAD

WORK AREA

PCMS

SEE NOTE 8.

L

X

B

R

YIELD AHEAD

ROAD WORK AHEAD

RIGHT LANE CLOSED AHEAD

WORK AREA

PCMS

SEE NOTE 8.

L

X

B

R

YIELD AHEAD

ROAD WORK AHEAD

RIGHT LANE CLOSED AHEAD

WORK AREA

PCMS

SEE NOTE 8.

L

X

B

R

YIELD AHEAD

ROAD WORK AHEAD

RIGHT LANE CLOSED AHEAD

WORK AREA

PCMS

SEE NOTE 8.

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YIELD AHEAD

ROAD WORK AHEAD

RIGHT LANE CLOSED AHEAD

WORK AREA

PCMS

SEE NOTE 8.

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YIELD AHEAD

ROAD WORK AHEAD

RIGHT LANE CLOSED AHEAD

WORK AREA

PCMS

SEE NOTE 8.

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YIELD AHEAD

ROAD WORK AHEAD

RIGHT LANE CLOSED AHEAD

WORK AREA

PCMS

SEE NOTE 8.

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YIELD AHEAD

ROAD WORK AHEAD

RIGHT LANE CLOSED AHEAD

WORK AREA

PCMS

SEE NOTE 8.

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YIELD AHEAD

ROAD WORK AHEAD

RIGHT LANE CLOSED AHEAD

WORK AREA

PCMS

SEE NOTE 8.

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YIELD AHEAD

ROAD WORK AHEAD

RIGHT LANE CLOSED AHEAD

WORK AREA

PCMS

SEE NOTE 8.

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B

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YIELD AHEAD

ROAD WORK AHEAD

RIGHT LANE CLOSED AHEAD

WORK AREA

PCMS

SEE NOTE 8.

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YIELD AHEAD

ROAD WORK AHEAD

RIGHT LANE CLOSED AHEAD

WORK AREA

PCMS

SEE NOTE 8.

L

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B

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YIELD AHEAD

ROAD WORK AHEAD

RIGHT LANE CLOSED AHEAD

WORK AREA

PCMS

SEE NOTE 8.

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RIGHT LANE CLOSED AHEAD

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PCMS

SEE NOTE 8.

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RIGHT LANE CLOSED AHEAD

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SEE NOTE 8.

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X

B

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YIELD AHEAD

ROAD WORK AHEAD

RIGHT LANE CLOSED AHEAD

WORK AREA

PCMS

SEE NOTE 8.

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YIELD AHEAD

ROAD WORK AHEAD

RIGHT LANE CLOSED AHEAD

WORK AREA

PCMS

SEE NOTE 8.

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YIELD AHEAD

ROAD WORK AHEAD

RIGHT LANE CLOSED AHEAD

WORK AREA

PCMS

SEE NOTE 8.

L

X

B

R

YIELD AHEAD

ROAD WORK AHEAD

RIGHT LANE CLOSED AHEAD

WORK AREA

PCMS

SEE NOTE 8.

L